

## COMPOUNDS CAPABLE OF INHIBITING IN-VIVO PHOSPHATE TRANSPORT AND MEDICAMENT CONTAINING THE SAME

### BACKGROUND OF THE INVENTION

#### 5 Field of the Invention

The present invention relates to compounds capable of suppressing the phosphate concentration of serum, and more particularly to compounds useful for the prevention and treatment of hyperphosphatemia.

#### 10 Related Art

The phosphate concentration of serum is specified by balance between absorption of phosphate from the intestine, intracellular and bone accumulation, filtration into primitive urine in the kidney, and subsequent reabsorption in uriniferous tubules. When the phosphate  
15 concentration of serum is not less than 5.0 mg/dl, this condition is called hyperphosphatemia and is a clinical condition that significantly appears mainly in end-stage renal failure and dialysis patients. This is mainly induced by deteriorated excretion of phosphate involved in elimination of renal function. It is also suggested that an increase in phosphate  
20 absorption from the intestine derived from the administration of vitamin D participates in this clinical condition. The hyperphosphatemia secondarily leads to hypocalcemia and thus induces secondary hyperparathyroidism which is in turn a principal factor for renal osteodystrophy.

25 In the prior art technique, to alleviate these clinical conditions, ingestion of a diet having a low phosphate content and the use of a phosphate adsorbent having the function of adsorbing phosphate in the diet have been carried out from the viewpoint of reducing the absorption of phosphate from the intestine. However, it has been pointed out that  
30 the diet having a low phosphate content is disadvantageous in that a nutritional disorder is likely to occur, for example, due to lack of ingestion of other nutriments, or observance of this dietary is difficult because the taste is not good. Representative examples of oral phosphate adsorbents include calcium preparations, magnesium preparations, and  
35 aluminum preparations. However, it has been pointed out, for example, that the calcium preparations and the magnesium preparations induce

hypercalcemia and hypermagnesemia, respectively, and the aluminum preparations induce aluminum osteopathy, aluminum cerebropathy, and dialysis dementia. In recent years, various anion exchange resins have been developed as the oral phosphate adsorbent. Since, however, 5 these anion exchange resins have lower phosphate adsorption capacity than the above group of compounds, a high level of dosage is necessary for phosphate absorption reduction purposes. Therefore, it cannot be said that the compliance for patients is good.

Despite the fact that all the conventional therapeutic agents for 10 hyperphosphatemia suffer from the above problems, up to now, therapeutic agents for hyperphosphatemia which can solve the above problems have not been reported.

Therapeutic agents for hyperphosphatemia are disclosed, for example, in WO 98/03185 and Kidney and Metabolic Bone Diseases, Vol. 15, No.1pp75-80 (2002). 15

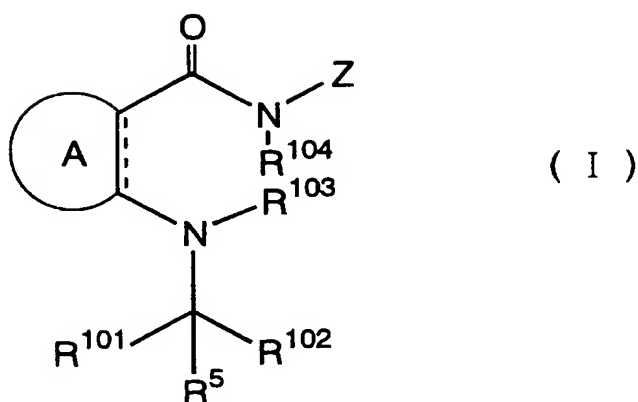
#### SUMMARY OF THE INVENTION

The present inventors have now found compounds that can inhibit sodium-dependent phosphate transport into rabbit jejunal brush 20 border membrane vesicle (hereinafter referred to as "rabbit BBMV") and can inhibit sodium-dependent phosphate uptake in *Xenopus* oocytes, which express sodium-dependent phosphate absorption carrier (NaPi-2a and NaPi-2b), present in the kidney and the small intestine, on cell membranes. The present inventors have also found that compounds 25 having a hydrazine skeleton can lower blood radioactivity of normal rats to which diets containing  $^{32}\text{P}$ , a radioisotope, have been administered orally.

An object of the present invention is to provide compounds and pharmaceutical compositions that can effectively prevent or treat 30 diseases induced by an increase in the phosphate concentration of serum by effectively suppressing the phosphate concentration of serum through a mechanism different from the conventional mechanism.

According to the present invention, there are provided compounds represented by formula (I) and pharmaceutically acceptable 35 salts and solvates thereof:





wherein

A represents a five- to nine-membered unsaturated carbocyclic moiety or a five- to nine-membered unsaturated heterocyclic moiety, and

5 ---- represents a single bond or a double bond,

the carbocyclic moiety and heterocyclic moiety represented by A are optionally substituted by

- (a) a halogen atom;
  - (b) hydroxyl;
  - 10 (c) C<sub>1-6</sub> alkyl;
  - (d) C<sub>1-6</sub> alkoxy;
  - (e) aryl;
  - (f) aryloxy;
  - (g) arylthio;
  - 15 (h) alkylthio;
  - (i) nitro;
  - (j) amino;
  - (k) mono- or di-arylamino;
  - (l) mono- or di-C<sub>1-6</sub> alkylamino;
  - 20 (m) C<sub>2-6</sub> alkenyl;
  - (n) C<sub>2-6</sub> alkenyloxy;
  - (o) C<sub>2-6</sub> alkenylthio;
  - (p) mono- or di-C<sub>2-6</sub> alkenylamino;
  - (q) carboxyl; or
  - 25 (r) C<sub>1-6</sub> alkyl- or aryl-oxycarbonyl;
- (c) the C<sub>1-6</sub> alkyl group, (d) the C<sub>1-6</sub> alkoxy group, (e) the aryl group, (f) the aryloxy group, (g) the arylthio group, (h) the alkylthio group,

(m) the C<sub>2-6</sub> alkenyl group, (n) the C<sub>2-6</sub> alkenyloxy group, and (o) the C<sub>2-6</sub> alkenylthio group are optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form  
 5 cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, (14) arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl, and the aryl group is optionally substituted by halogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, or C<sub>1-6</sub> alkylamino, (15) C<sub>1-6</sub> alkoxy-  
 10 (CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub> wherein m is an integer of 1 to 6, (16) carboxyl, (17) an oxygen atom (=O), or (18) C<sub>3-7</sub> cycloalkyl,

the aryl moiety in (k) the mono- or di-aryl amino group is optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub> alkylamino in  
 15 which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, (14) arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl, and the aryl group is optionally substituted by halogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, or  
 20 C<sub>1-6</sub> alkylamino, (15) C<sub>1-6</sub> alkoxy-(CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub> wherein m is an integer of 1 to 6, (16) carboxyl, (17) an oxygen atom (=O), or (18) C<sub>3-7</sub> cycloalkyl, and, in the case of the mono-aryl amino group, the amino group is optionally substituted by C<sub>1-6</sub> alkyl optionally substituted by hydroxyl or a halogen atom,

in (l) the mono- or di-C<sub>1-6</sub> alkylamino, the di-C<sub>1-6</sub> alkyl group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by a halogen atom; C<sub>1-6</sub> alkyl optionally substituted by hydroxyl, a halogen atom, or aryl optionally substituted  
 30 by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, a heterocyclic group optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, and, when one or two alkyl groups on the amino group and the cyclic amino moiety are substituted by two C<sub>1-6</sub> alkyl groups, they together may form C<sub>3-7</sub> cycloalkyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub> alkylthio; mono- or di-C<sub>1-6</sub> alkylamino in  
 35 which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two C<sub>1-6</sub> alkyl groups on the

amino group and the cyclic amino moiety are optionally substituted by hydroxyl or a halogen atom; arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl; mono- or di-C<sub>1-6</sub> alkylcarbamoylmethyl in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; aryloxy; arylthio; an oxygen atom; hydroxyl; carboxyl; C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl; C<sub>1-6</sub> alkylcarbonyl; aryl optionally substituted by a halogen atom or hydroxyl; an oxygen atom (=O); or a heterocyclic group,

in (p) the mono- or di-C<sub>2-6</sub> alkenylamino group, the amino group of the monoalkenylamino group is optionally substituted by C<sub>1-6</sub> alkyl optionally substituted by hydroxyl or a halogen atom, and the di-C<sub>2-6</sub> alkenyl together may form unsaturated cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkenyl groups on the amino group or the unsaturated cyclic amino moiety are optionally substituted by a halogen atom; C<sub>1-6</sub> alkyl optionally substituted by hydroxyl, a halogen atom, aryl optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, a heterocyclic group optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, and, when one or two alkyl groups on the amino group and the cyclic amino moiety are substituted by two C<sub>1-6</sub> alkyl groups, they together may form C<sub>3-7</sub> cycloalkyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub> alkylthio; mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two C<sub>1-6</sub> alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl or a halogen atom; arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl; mono- or di-C<sub>1-6</sub> alkylcarbamoylmethyl in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; aryloxy; arylthio; an oxygen atom; hydroxyl; carboxyl; C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl; C<sub>1-6</sub> alkylcarbonyl; aryl optionally substituted by a halogen atom or hydroxyl; an oxygen atom (=O); or a heterocyclic group,

when the carbocyclic moiety and hetrocyclic moiety represented by A are substituted by two (c) C<sub>1-6</sub> alkyl groups or (m) C<sub>2-6</sub> alkenyl

groups, the alkyl or alkenyl groups together with the carbon atoms to which they are respectively attached may form an unsaturated five- to seven-membered carbocyclic ring,

- $R^5$  represents  $C_{1-6}$  alkyl, aryl,  $C_{1-6}$  alkoxy, aryloxy,  $C_{1-6}$  alkylamino, arylamino,  $C_{1-6}$  alkylthio, arylthio,  $C_{3-7}$  cycloalkyl, or a heterocyclic group, and the  $C_{1-6}$  alkyl, aryl,  $C_{1-6}$  alkoxy, aryloxy,  $C_{1-6}$  alkylamino, arylamino,  $C_{1-6}$  alkylthio, arylthio,  $C_{3-7}$  cycloalkyl, or heterocyclic group represented by  $R^5$  may be the same or different, and is optionally substituted by
- (I) a halogen atom;
  - (II)  $C_{1-6}$  alkyl optionally containing a substituent selected from the group consisting of (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy, (5)  $C_{1-6}$  alkylthio, (6)  $C_{1-6}$  alkylsulfinyl, (7)  $C_{1-6}$  alkylsulfonyl, (8) mono- or di- $C_{1-6}$  alkylamino, (8') amino substituted by a heterocyclic group optionally substituted by  $C_{1-6}$  alkyl, (9)  $C_{1-6}$  alkylcarbonyloxy, (10)  $C_{1-6}$  alkylcarbonylthio, (11)  $C_{1-6}$  alkylcarbonylamino, (12) aryloxy, (13) arylthio, (14) arylsulfinyl, (15) arylsulfonyl, (16) arylamino, (17)  $C_{1-6}$  alkyl- or aryl-sulfonylamino, (18)  $C_{1-6}$  alkyl- or aryl-ureido, (19)  $C_{1-6}$  alkoxy- or aryloxy-carbonylamino, (20)  $C_{1-6}$  alkylamino- or arylamino-carbonyloxy, (21) carboxyl, (22) nitro, (23) a heterocyclic group, (23') Het-S(=O)<sub>j</sub>- wherein Het represents a heterocyclic group, j is 0, 1, or 2, and Het is optionally substituted by alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl, (24) cyano, and (25) a halogen atom,
- wherein the alkyl moiety in (4) the  $C_{1-6}$  alkoxy group, (5) the  $C_{1-6}$  alkylthio group, (6) the  $C_{1-6}$  alkylsulfinyl group, and (7) the  $C_{1-6}$  alkylsulfonyl group is optionally substituted by a halogen atom;  $C_{1-6}$  alkyl;  $C_{1-6}$  alkoxy;  $C_{1-6}$  alkylthio; mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms; aryloxy; arylthio; hydroxyl; carboxyl; -S(=O)<sub>2</sub>(-OH);  $C_{1-6}$  alkoxy- or aryloxy-carbonyl;  $C_{1-6}$  alkylcarbonyl; aryl; or a heterocyclic group optionally substituted by alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and cyclic amino moiety are optionally substituted by

hydroxy, and

in (8) the mono- or di- $C_{1-6}$  alkylamino group, the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by a halogen atom;  $C_{1-6}$  alkyl optionally substituted by hydroxyl, a halogen atom, aryl optionally substituted by a halogen atom,  $C_{1-6}$  alkyl, or  $C_{1-6}$  alkyloxy, or a heterocyclic group optionally substituted by a halogen atom,  $C_{1-6}$  alkyl, or  $C_{1-6}$  alkyloxy, and, when one or two alkyl groups on the amino group and the cyclic amino moiety are substituted by two  $C_{1-6}$  alkyl groups, they together may form  $C_{3-7}$  cycloalkyl;  $C_{1-6}$  alkoxy;  $C_{1-6}$  alkylthio; mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; arylamino in which the amino group is optionally substituted by  $C_{1-6}$  alkyl; mono- or di- $C_{1-6}$  alkylcarbamoylmethyl in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; aryloxy; arylthio; an oxygen atom ( $=O$ ); hydroxyl; carboxyl;  $C_{1-6}$  alkoxy- or aryloxy-carbonyl;  $C_{1-6}$  alkylcarbonyl; aryl optionally substituted by a halogen atom or hydroxyl; or a heterocyclic group, preferably a five- to seven-membered saturated or unsaturated heterocyclic ring, more preferably pyridyl, pyrimidyl, or pyridazyl, and, when one carbon atom in the cyclic amino moiety is substituted by two  $C_{1-6}$  alkoxy groups which may be the same or different, the two alkoxy groups together may form group  $-O-(CH_2)_p-O-$  wherein  $p$  is an integer of 2 to 4, and the cyclic amino group may condense with a monocyclic or bicyclic aromatic carbocyclic ring, preferably phenyl or naphthyl, or a monocyclic or bicyclic aromatic heterocyclic ring, preferably pyridyl or naphthyridyl to represent a bicyclic or tricyclic heterocyclic group;

(III)  $C_{1-6}$  alkoxy optionally substituted by a halogen atom;

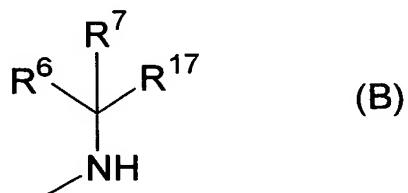
(IV)  $C_{1-6}$  alkylthio optionally substituted by a halogen atom;

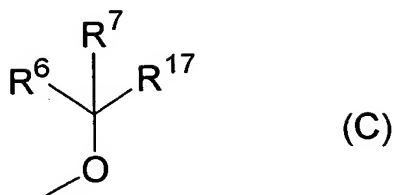
(V)  $C_{3-7}$  cycloalkyl;

(VI) aryl;

(VII) aryloxy;

- (VIII) C<sub>1-6</sub> alkylcarbonylamino;  
 (VIX) C<sub>1-6</sub> alkylcarbonyloxy;  
 (X) hydroxyl;  
 (XI) nitro;  
 5 (XII) cyano;  
 (XIII) amino;  
 (XIV) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms;  
 (XV) arylamino;  
 10 (XVI) C<sub>1-6</sub> alkyl- or aryl-sulfonylamino;  
 (XVII) C<sub>1-6</sub> alkyl- or aryl-ureido;  
 (XVIII) C<sub>1-6</sub> alkoxy- or aryloxy-carbonylamino;  
 (XIX) C<sub>1-6</sub> alkylamino- or arylamino-carbonyloxy;  
 (XX) C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl;  
 15 (XXI) acyl;  
 (XXII) carboxyl;  
 (XXIII) carbamoyl;  
 (XXIV) mono- or di-alkylcarbamoyl;  
 (XXV) a heterocyclic group;  
 20 (XXVI) alkyl- or aryl-sulfonyl;  
 (XXVII) C<sub>2-6</sub> alkenyloxy group; or  
 (XXVIII) C<sub>2-6</sub> alkynyloxy,  
 Z represents group (A), group (B), or group (C):





wherein

$R^6$  and  $R^7$ , which may be the same or different, represent a hydrogen atom,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl, aryl, aryl  $C_{1-6}$  alkyl, aryl  $C_{2-6}$  alkenyl, or a heterocyclic group, and the  $C_{1-6}$  alkyl, aryl, aryl  $C_{1-6}$  alkyl, aryl  $C_{2-6}$  alkenyl, and heterocyclic groups, which may be the same or different, are optionally substituted by:

(I) a halogen atom;

(II)  $C_{1-6}$  alkyl optionally having a substituent selected from a group consisting of (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy, (5)  $C_{1-6}$  alkylthio optionally substituted by hydroxyl, (6)  $C_{1-6}$  alkylsulfinyl, (7)  $C_{1-6}$  alkylsulfonyl, (8) mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, (9)  $C_{1-6}$  alkylcarbonyloxy, (10)  $C_{1-6}$  alkylcarbonylthio, (11)  $C_{1-6}$  alkylcarbonylamino, (12) aryloxy, (13) arylthio, (14) arylsulfinyl, (15) arylsulfonyl, (16) arylamino, (17)  $C_{1-6}$  alkyl- or aryl-sulfonylamino, (18)  $C_{1-6}$  alkyl- or aryl-ureido, (19)  $C_{1-6}$  alkoxy- or aryloxy-carbonylamino, (20)  $C_{1-6}$  alkylamino- or arylamino-carbonyloxy, (21) carboxyl, (22) nitro, (23) a heterocyclic group, (23') Het-S- wherein Het represents a heterocyclic group, (24) cyano, (25) a halogen atom, and (26)  $C_{1-6}$  alkyl- or aryl-oxycarbonyl;

(III)  $C_{1-6}$  alkoxy optionally having a substituent selected from the group consisting of (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy, (5)  $C_{1-6}$  alkylthio optionally substituted by hydroxyl, (6)  $C_{1-6}$  alkylsulfinyl, (7)  $C_{1-6}$  alkylsulfonyl, (8) mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, (9)  $C_{1-6}$  alkylcarbonyloxy, (10)  $C_{1-6}$  alkylcarbonylthio, (11)  $C_{1-6}$  alkylcarbonylamino, (12) aryloxy, (13) arylthio, (14) arylsulfinyl, (15) arylsulfonyl, (16) arylamino, (17)  $C_{1-6}$  alkyl- or aryl-sulfonylamino, (18)  $C_{1-6}$  alkyl- or aryl-ureido, (19)  $C_{1-6}$  alkoxy- or aryloxy-carbonylamino, (20)  $C_{1-6}$  alkylamino- or arylamino-carbonyloxy, (21) carboxyl, (22) nitro, (23) a heterocyclic group, (23') Het-S- wherein Het represents a

heterocyclic group, (24) cyano, (25) a halogen atom, and (26) C<sub>1-6</sub> alkyl- or aryl-oxycarbonyl;

(IV) C<sub>1-6</sub> alkylthio optionally substituted by a halogen atom;

(V) C<sub>3-7</sub> cycloalkyl;

5 (VI) aryl;

(VII) aryloxy;

(VIII) C<sub>1-6</sub> alkylcarbonylamino;

(VIX) C<sub>1-6</sub> alkylcarbonyloxy;

(X) hydroxyl;

10 (XI) nitro;

(XII) cyano;

(XIII) amino;

(XIV) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms;

15 (XV) arylamino;

(XVI) C<sub>1-6</sub> alkyl- or aryl-sulfonylamino;

(XVII) C<sub>1-6</sub> alkyl- or aryl-ureido;

(XVIII) C<sub>1-6</sub> alkoxy- or aryloxy-carbonylamino;

(XIX) C<sub>1-6</sub> alkylamino- or arylamino-carbonyloxy;

20 (XX) C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl;

(XXI) acyl;

(XXII) carboxyl;

(XXIII) carbamoyl;

(XXIV) mono- or di-alkylcarbamoyl;

25 (XXV) a heterocyclic group;

(XXVI) alkyl- or aryl-sulfonyl;

(XXVII) C<sub>2-6</sub> alkenyloxy; or

(XXVIII) C<sub>2-6</sub> alkynyloxy,

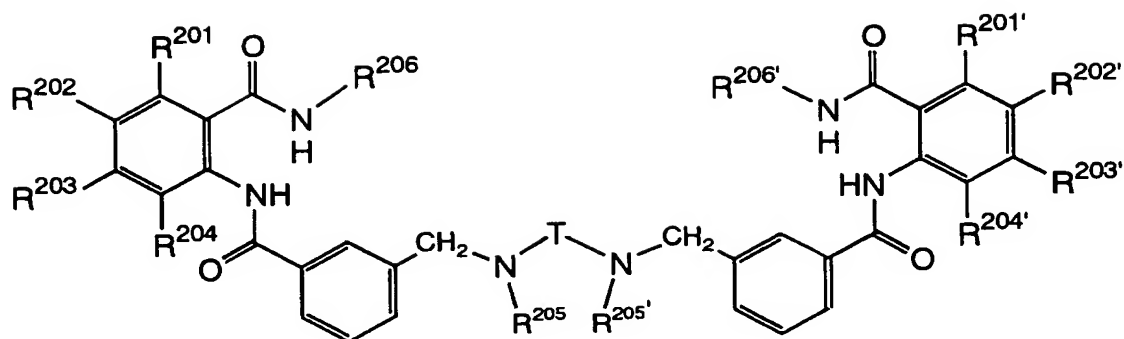
R<sup>17</sup> represents a hydrogen atom,

30 R<sup>101</sup> and R<sup>102</sup> together represent =O, and R<sup>103</sup> and R<sup>104</sup> represent a hydrogen atom, or R<sup>101</sup> and R<sup>104</sup> together represent a bond, and R<sup>102</sup> and R<sup>103</sup> together represent a bond.

Compounds according to the present invention include compounds represented by formula (I-3) and pharmaceutically acceptable salts and solvates thereof:

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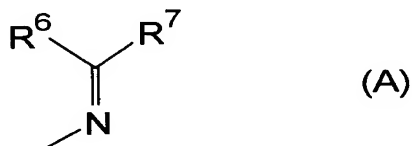


(I-3)

wherein  $R^{201}$ ,  $R^{202}$ ,  $R^{203}$ ,  $R^{204}$ ,  $R^{201'}$ ,  $R^{202'}$ ,  $R^{203'}$ , and  $R^{204'}$ , which may be the same or different, represent a hydrogen atom, a halogen atom, hydroxyl,  $C_{1-6}$  alkyl, or  $C_{1-6}$  alkoxy,

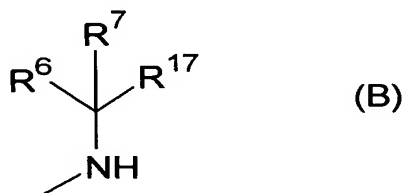
5  $R^{205}$  and  $R^{205'}$ , which may be the same or different, represent a hydrogen atom or  $C_{1-6}$  alkyl,

$R^{206}$  and  $R^{206'}$ , which may be the same or different, represent group A or group B



(A)

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(B)

wherein  $R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,  $R^7$  represents aryl or a saturated or unsaturated five- or six-membered heterocyclic group in which the aryl group and heterocyclic group are optionally substituted by a halogen atom or  $C_{1-6}$  alkyl optionally substituted by a halogen atom, and

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T represents  $C_{2-8}$  alkylene chain.

The pharmaceutical composition according to the present invention comprises the compound according to the present invention.

The pharmaceutical composition according to the present invention may be used for the prevention or treatment of diseases for which serum phosphorus lowering action or phosphate transport inhibition is therapeutically effective. Further, the compounds according to the present invention may be used as a serum phosphorus concentration lowering agent and a phosphate transport inhibitor.

According to the present invention, there is provided use of the compound according to the present invention, for the manufacture of a medicament in the prevention or treatment of diseases for which serum phosphorus lowering action or phosphate transport inhibition is therapeutically effective.

Further, according to the present invention, there is provided use of the compound according to the present invention, for the manufacture of a serum phosphorus concentration lowering agent.

Furthermore, according to the present invention, there is provided use of the compound according to the present invention, for the manufacture of a phosphate transport inhibitor.

Furthermore, according to the present invention, there is provided a method for preventing or treating a disease for which serum phosphorus lowering action or phosphate transport inhibition is therapeutically effective, said method comprising the step of administering a therapeutically or prophylactically effective amount of the compound according to the present invention to a mammal.

Furthermore, according to the present invention, there is provided a method for lowering the concentration of serum phosphorus in a blood stream, said method comprising the step of administering a therapeutically or prophylactically effective amount of the compound according to the present invention to a mammal.

Furthermore, according to the present invention, there is provided a method for inhibiting phosphate transport in vivo, said method comprising the step of administering a therapeutically or prophylactically effective amount of the compound according to the present invention to a mammal.

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#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows the inhibition of sodium-dependent phosphate

uptake of rabbit jejunal brush border membrane vesicle by compounds according to the present invention;

Fig. 2 shows the inhibition of sodium-dependent glucose uptake of rabbit jejunal brush border membrane vesicle by compounds according to the present invention;

Fig. 3 shows the inhibition of sodium-dependent phosphate uptake of *Xenopus* oocytes, which have expressed NaPi-2a by compounds according to the present invention; and

Fig. 4 shows the inhibition of sodium-dependent phosphate uptake of *Xenopus* oocytes, which have expressed NaPi-2a and NaPi-2b by compounds according to the present invention.

## DETAILED DESCRIPTION OF THE INVENTION

### Compounds

The terms "C<sub>1-6</sub> alkyl" and "C<sub>1-6</sub> alkoxy" as used herein as a group or a part of a group respectively mean straight chain or branched chain alkyl and alkoxy having 1 to 6 carbon atoms. Preferably, the "C<sub>1-6</sub> alkyl" and "C<sub>1-6</sub> alkoxy" may be C<sub>1-4</sub> alkyl and C<sub>1-4</sub> alkoxy, respectively.

The term "C<sub>3-7</sub> cycloalkyl" as used herein as a group or a part of a group means cyclic alkyl having 3 to 7 carbon atoms. Preferably, the "C<sub>3-7</sub> cycloalkyl" is C<sub>5-7</sub> cycloalkyl.

The terms "C<sub>2-6</sub> alkenyl" and "C<sub>2-6</sub> alkynyl" as used herein as a group or a part of a group respectively mean straight chain or branched chain alkenyl having 2 to 6 carbon atoms and alkynyl having 2 to 6 carbon atoms. Preferably, the "C<sub>2-6</sub> alkenyl" is C<sub>2-4</sub> alkenyl. Preferably, the "C<sub>2-6</sub> alkynyl" is C<sub>2-4</sub> alkynyl.

Examples of C<sub>1-6</sub> alkyl include methyl, ethyl, n-propyl, isopropyl, n-butyl, i-butyl, s-butyl, t-butyl, n-pentyl, and n-hexyl.

Examples of C<sub>1-6</sub> alkoxy include methoxy, ethoxy, n-propoxy, i-propoxy, n-butoxy, i-butoxy, s-butoxy, and t-butoxy.

Examples of C<sub>3-7</sub> cycloalkyl include cyclopropyl, cyclopentyl, and cyclohexyl.

Examples of C<sub>2-6</sub> alkenyl include allyl, butenyl, pentenyl, and hexenyl.

Examples of C<sub>2-6</sub> alkynyl include 2-propynyl, butynyl, pentynyl, and hexynyl.

The term "halogen atom" as used herein means a fluorine, chlorine, bromine, or iodine atom.

The terms "unsaturated carbocyclic ring" and "unsaturated heterocyclic ring" as used herein respectively mean carbocyclic ring and heterocyclic ring having one or more unsaturated bonds such as a double bond.

The term "aryl" as used herein means a monocyclic, bicyclic, or tricyclic aromatic hydrocarbon group. Examples of aryl include phenyl, naphthyl, and anthryl.

The term "aryl C<sub>1-6</sub> alkyl" as used herein means C<sub>1-6</sub> alkyl substituted by a monocyclic, bicyclic, or tricyclic aromatic hydrocarbon group. Examples of aryl C<sub>1-6</sub> alkyl include benzyl (C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>-) and phenethyl (C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>-).

The term "arylamino" as used herein means amino substituted by a monocyclic, bicyclic, or tricyclic aromatic hydrocarbon group.

The term "aryl C<sub>2-6</sub> alkenyl" as used herein means C<sub>2-6</sub> alkenyl substituted by a monocyclic, bicyclic, or tricyclic aromatic hydrocarbon group. Examples of aryl C<sub>2-6</sub> alkenyl include phenylethenyl (C<sub>6</sub>H<sub>5</sub>-CH=CH-).

The term "heterocyclic group" as used herein means a saturated or unsaturated five- to nine-membered (preferably five- to seven-membered, more preferably five- or six-membered) monocyclic heterocyclic group and a saturated or unsaturated nine- to eleven-membered bicyclic heterocyclic group. The heterocyclic group contains one or more heteroatoms selected from oxygen, nitrogen, and sulfur atoms. Examples of the heterocyclic ring include pyridyl, furyl, thienyl, pyrrolyl, pyridazyl, pyrimidyl, pyrazyl, isoxazolyl, quinolyl, quinoxaliny, and quinazolidyl.

In the di-C<sub>1-6</sub> alkylamino group as used herein, two C<sub>1-6</sub> alkyl groups attached to the nitrogen atom together may form "cyclic amino." The term "cyclic amino" as used herein means a saturated five- to eight-membered heterocyclic group formed by combining two C<sub>1-6</sub> alkyl groups attached to the nitrogen atom with each other. The cyclic amino group may contain, in addition to the nitrogen atom in the amino group, 1 to 3 heteroatoms, preferably one oxygen atom, one nitrogen atom, or one sulfur atom. Examples of the saturated cyclic amino group include

pyrrolidyl, piperidyl, piperazyl, morpholyl, thiomorpholyl, homopiperidyl, and [1,4]diazepine.

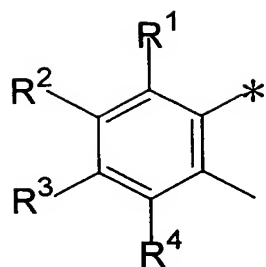
In the di- $C_{2-6}$  alkenylamino group as used herein, two  $C_{2-6}$  alkenyl groups attached to the nitrogen atom together may form "unsaturated cyclic amino." The term "cyclic amino" as used herein means an unsaturated five- to eight-membered heterocyclic group formed by combining two  $C_{2-6}$  alkenyl groups attached to the nitrogen atom with each other. The cyclic amino group may contain, in addition to the nitrogen atom in the amino group, 1 to 3 heteroatoms, preferably one oxygen atom or one nitrogen atom. Examples of the unsaturated cyclic amino group include pyrrole, pyrazole, imidazolyl, and tetrahydropyridyl.

Compounds represented by formula (I) include hydrazine derivatives and quinazolone derivatives. When  $R^{101}$  and  $R^{102}$  together represent =O and  $R^{103}$  and  $R^{104}$  represent a hydrogen atom, formula (I) represents hydrazine derivatives. When  $R^{101}$  and  $R^{104}$  together represent a bond and when  $R^{102}$  and  $R^{103}$  together represent a bond, formula (I) represent quinazolone derivatives.

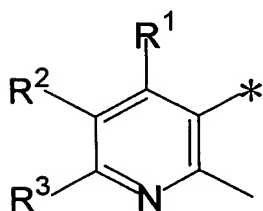
In formula (I) and formula (I-1) and formula (I-2) which will be described later, the five- to nine-membered unsaturated carbocyclic moiety or five- to nine-membered unsaturated heterocyclic moiety represented by A may represent, for example, benzene ring moiety, cyclohexene ring moiety, or pyridine ring moiety.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when the carbocyclic moiety and heterocyclic moiety represented by A are substituted by two substituents, (c)  $C_{1-6}$  alkyl groups or (m)  $C_{2-6}$  alkenyl groups, these alkyl groups or these alkenyl groups together may form a  $C_{3-5}$  alkylene chain or a  $C_{3-5}$  alkylene chain. In this case, A may represent, for example, naphthyl, quinolyl, benzo[b]thiophene, 4,5,6,7,-tetrahydrobenzo[b]thiophene, cyclopenta[b]thiophene, or quinazolyl.

In formula (I) and formulae (I-1) and (I-2) which will be described later, preferably, the five- to nine-membered unsaturated carbocyclic moiety or the five- to nine-membered unsaturated heterocyclic moiety represented by A may represent formula (IIa) or formula (IIa'):



(IIa)



(IIa')

wherein  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$ , which may be the same or different,  
 5 represent

- (a) a halogen atom;
- (b) hydroxyl;
- (c)  $C_{1-6}$  alkyl;
- (d)  $C_{1-6}$  alkoxy;
- 10 (e) aryl;
- (f) aryloxy;
- (g) arylthio;
- (h) alkylthio;
- (i) nitro;
- 15 (j) amino;
- (i) nitro;
- (j) amino;
- (k) mono- or di-arylamino;
- (l) mono- or di- $C_{1-6}$  alkylamino;
- 20 (m)  $C_{2-6}$  alkenyl;
- (n)  $C_{2-6}$  alkenyloxy;
- (o)  $C_{2-6}$  alkenylthio;
- (p) mono- or di- $C_{2-6}$  alkenylamino;
- (q) carboxyl;
- 25 (r)  $C_{1-6}$  alkyl- or aryl-oxycarbonyl; or
- (s) a hydrogen atom,
- (c) the  $C_{1-6}$  alkyl group, (d) the  $C_{1-6}$  alkoxy group, (e) the aryl

group, (f) the aryloxy group, (g) the arylthio group, (h) the alkylthio group, (m) the C<sub>2-6</sub> alkenyl group, (n) the C<sub>2-6</sub> alkenyloxy group, and (o) the C<sub>2-6</sub> alkenylthio group are optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl, and the aryl group is optionally substituted by halogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, or C<sub>1-6</sub> alkylamino, (15) C<sub>1-6</sub> alkoxy-(CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub> wherein m is an integer of 1 to 6, (16) carboxyl, (17) an oxygen atom (=O), or (18) C<sub>3-7</sub> cycloalkyl,

the aryl moiety in (k) the mono- or di-aryl amino group is optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, (14) arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl, and the aryl group is optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, or C<sub>1-6</sub> alkylamino, (15) C<sub>1-6</sub> alkoxy-(CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub> wherein m is an integer of 1 to 6, (16) carboxyl, (17) an oxygen atom (=O), or (18) C<sub>3-7</sub> cycloalkyl, and, in the case of the mono-aryl amino group, the amino group is optionally substituted by C<sub>1-6</sub> alkyl optionally substituted by hydroxyl or a halogen atom,

in (l) the mono- or di-C<sub>1-6</sub> alkylamino, the di-C<sub>1-6</sub> alkyl group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by a halogen atom; C<sub>1-6</sub> alkyl optionally substituted by hydroxyl, a halogen atom, or aryl optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, a heterocyclic group optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, and, when one or two alkyl groups on the amino group and the cyclic amino moiety are substituted by two C<sub>1-6</sub> alkyl groups, they together may form C<sub>3-7</sub> cycloalkyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub> alkylthio; mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally

containing 1 to 3 heteroatoms, and one or two C<sub>1-6</sub> alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl or a halogen atom; arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl; mono- or di-C<sub>1-6</sub> alkylcarbamoylmethyl in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; aryloxy; arylthio; an oxygen atom (=O); hydroxyl; carboxyl; C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl; C<sub>1-6</sub> alkylcarbonyl; aryl optionally substituted by a halogen atom or hydroxyl; or a heterocyclic group,

in (p) the mono- or di-C<sub>2-6</sub> alkenylamino group, the amino group of the monoalkenylamino group is optionally substituted by C<sub>1-6</sub> alkyl optionally substituted by hydroxyl or a halogen atom, and the di-C<sub>2-6</sub> alkenyl together may form unsaturated cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkenyl groups on the amino group or the unsaturated cyclic amino moiety is optionally substituted by a halogen atom; C<sub>1-6</sub> alkyl optionally substituted by hydroxyl, a halogen atom, aryl optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, a heterocyclic group optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, and, when one or two alkyl groups on the amino group and the cyclic amino moiety are substituted by two C<sub>1-6</sub> alkyl groups, they together may form C<sub>3-7</sub> cycloalkyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub> alkylthio; mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two C<sub>1-6</sub> alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl or a halogen atom; arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl; mono- or di-C<sub>1-6</sub> alkylcarbamoylmethyl in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; aryloxy; arylthio; an oxygen atom (=O); hydroxyl; carboxyl; C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl; C<sub>1-6</sub> alkylcarbonyl; aryl optionally substituted by a halogen atom or hydroxyl; or a heterocyclic group,

when the carbocyclic moiety and heterocyclic moiety represented



by A are substituted by two (c) C<sub>1-6</sub> alkyl groups or (m) C<sub>2-6</sub> alkenyl groups, preferably when positions of R<sup>2</sup> and R<sup>3</sup> are substituted, the alkyl or alkenyl groups together with the carbon atoms to which they are respectively attached may form an unsaturated five- to seven-membered carbocyclic ring, and

\* represents a bond to -C(=O)-N(-Z)(-R<sup>104</sup>).

In formula (I) and formula (I-1) and formula (I-2) which will be described later, A may represent formula (IIa), and, in this case, preferably R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> represent

- 10 (a) a halogen atom;
- (b) hydroxyl;
- (c) C<sub>1-6</sub> alkyl;
- (d) C<sub>1-6</sub> alkoxy;
- (e) aryl;
- 15 (f) aryloxy;
- (g) arylthio;
- (h) alkylthio;
- (i) nitro;
- (j) amino; or
- 20 (k) a hydrogen atom, and

(c) the C<sub>1-6</sub> alkyl group, (d) the C<sub>1-6</sub> alkoxy group, (e) the aryl group, (f) the aryloxy group, (g) the arylthio group, and (h) the alkylthio group are optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl, and the aryl group is optionally substituted by halogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, or C<sub>1-6</sub> alkylamino.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIa) or formula (IIa'), preferably, R<sup>1</sup>, R<sup>3</sup>, and R<sup>4</sup>, which may be the same or different, represent

- a hydrogen atom;
- 35 a halogen atom;
- C<sub>1-6</sub> alkyl in which the alkyl group is optionally substituted by C<sub>1-6</sub>

alkoxy or a halogen atom;

aryl optionally substituted by C<sub>1-6</sub> alkoxy or a halogen atom;

C<sub>1-6</sub> alkoxy in which the alkoxy group is optionally substituted by C<sub>1-6</sub> alkoxy or a halogen atom; or

5 aryloxy optionally substituted by C<sub>1-6</sub> alkoxy or a halogen atom,

R<sup>2</sup> may represent

a hydrogen atom;

a halogen atom;

hydroxyl;

10 C<sub>1-6</sub> alkyl in which the alkyl group is optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a  
15 heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl, and the aryl group is optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, or C<sub>1-6</sub> alkylamino; or

C<sub>1-6</sub> alkoxy in which the alkoxy group is optionally substituted by  
20 (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub> alkylamino in which di-C<sub>1-6</sub> alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, or (13) a halogen atom,

25 more preferably,

R<sup>1</sup>, R<sup>3</sup>, and R<sup>4</sup> represent a hydrogen atom,

R<sup>2</sup> represents

a halogen atom;

hydroxyl;

30 C<sub>1-6</sub> alkyl optionally substituted by mono- or di-C<sub>1-6</sub> alkylamino; or C<sub>1-6</sub> alkoxy optionally substituted by mono- or di-C<sub>1-6</sub> alkylamino.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIa) or formula (IIa'), preferably, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which may be the same or different,  
35 represent a hydrogen atom; a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; optionally substituted C<sub>2-6</sub> alkenyl; optionally

substituted C<sub>1-6</sub> alkoxy; optionally substituted mono- or di-arylamino; optionally substituted mono- or di-C<sub>1-6</sub> alkylamino in which the dialkylamino together may form optionally substituted cyclic amino optionally containing 1 to 3 heteroatoms; optionally substituted mono- or di-C<sub>2-6</sub> alkenylamino in which the di-C<sub>2-6</sub> alkenylamino group together may form optionally substituted unsaturated cyclic amino optionally containing 1 to 3 heteroatoms, and, when R<sup>2</sup> and R<sup>3</sup> are optionally substituted C<sub>1-6</sub> alkyl or optionally substituted C<sub>2-6</sub> alkenyl, the alkyl or alkenyl groups together with the carbon atoms to which R<sup>2</sup> and R<sup>3</sup> are respectively attached may form an unsaturated five- to seven-membered carbocyclic ring, and, more preferably, R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIa) or formula (IIa'), preferably, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which may be the same or different, represent a hydrogen atom; a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; or optionally substituted C<sub>1-6</sub> alkoxy, and more preferably, R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIa) or formula (IIa'), R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> more preferably represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIa) or formula (IIa'), more preferably,

R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom,

any one of R<sup>2</sup> and R<sup>3</sup>, preferably R<sup>2</sup>, represents a halogen atom; hydroxyl; C<sub>1-6</sub> alkyl optionally having a substituent, preferably a halogen atom, mono- or di- alkylamino which may form cyclic amino, or hydroxyl; C<sub>1-6</sub> alkoxy optionally having a substituent, preferably a halogen atom, mono- or di-alkylamino which may form cyclic amino, hydroxyl, C<sub>1-6</sub> alkoxy-(CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub>, wherein m is an integer of 1 to 6, or C<sub>3-7</sub> cycloalkyl; optionally substituted mono- or di- arylamino; mono- or di-C<sub>1-6</sub> alkylamino optionally having a substituent, preferably hydroxyl, C<sub>1-6</sub> alkyl optionally substituted by hydroxyl, an oxygen atom (=O), mono- or di-C<sub>1-6</sub> alkylamino which may form cyclic amino, or carboxyl, and the dialkylamino together may form cyclic amino optionally having a

substituent, preferably hydroxyl, C<sub>1-6</sub> alkyl optionally substituted by hydroxyl, an oxygen atom (=O), mono- or di-C<sub>1-6</sub> alkylamino which may form cyclic amino, or carboxyl, and the cyclic amino group may contain 1 to 3 heteroatoms; optionally substituted mono- or di-C<sub>2-6</sub> alkenylamino, in  
 5 which the di-C<sub>2-6</sub> alkenylamino group together may form optionally substituted unsaturated cyclic amino optionally containing 1 to 3 heteroatoms, and the other (preferably, R<sup>3</sup>) represents a hydrogen atom.

In the above preferred embodiment, more preferably, the cyclic amino group may be a five- to seven-membered heterocyclic group that  
 10 optionally contains one oxygen atom, one nitrogen atom, or one sulfur atom in addition to the nitrogen atom in the amino group. Particularly preferred saturated cyclic amino groups include pyrrolidyl, piperidyl, piperazyl, morpholyl, thiomorpholyl, homopiperidyl, and [1,4]diazepine.

In formula (I) and formula (I-1) and formula (I-2) which will be  
 15 described later, when A represents formula (IIa) or formula (IIa'), more preferably, R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, and any one of R<sup>2</sup> and R<sup>3</sup> represents a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; optionally substituted C<sub>1-6</sub> alkoxy with the other representing a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be  
 20 described later, when A represents formula (IIa) or formula (IIa'), more preferably, R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, and R<sup>2</sup> and R<sup>3</sup>, which may be the same or different, represent a halogen atom; hydroxyl; C<sub>1-6</sub> alkyl optionally having a substituent, preferably a halogen atom, mono- or di-alkylamino group which may form cyclic amino, or hydroxyl; C<sub>1-6</sub>  
 25 alkoxy optionally having a substituent, preferably a halogen atom, mono- or di-alkylamino which may form cyclic amino, hydroxyl, C<sub>1-6</sub> alkoxy-(CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub> wherein m is an integer of 1 to 6, or C<sub>3-7</sub> cycloalkyl.

In the above preferred embodiment, more preferably, the cyclic amino group may be a five- to seven-membered heterocyclic group that  
 30 optionally contains one oxygen atom, one nitrogen atom, or one sulfur atom in addition to the nitrogen atom in the amino group. Particularly preferred saturated cyclic amino groups include pyrrolidyl, piperidyl, piperazyl, morpholyl, thiomorpholyl, homopiperidyl, and [1,4]diazepine.

In formula (I) and formula (I-1) and formula (I-2) which will be  
 35 described later, when A represents formula (IIa) or formula (IIa'), more

preferably,  $R^1$  and  $R^4$  represent a hydrogen atom, and  $R^2$  and  $R^3$  together with the carbon atoms to which they are respectively attached form an unsaturated five- to seven-membered carbocyclic ring. Particularly preferably, group A together with  $R^2$  and  $R^3$  forms naphthyl or quinolyl.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIa) or formula (IIa'), more preferably,  $R^1$  and  $R^4$  represent a hydrogen atom, and  $R^2$  and  $R^3$ , which may be the same or different, represent  $C_{1-6}$  alkoxy optionally having a substituent ( $C_{1-6}$  alkoxy- $(CH_2CH_2O)_m$  wherein m is an integer of 1 to 6).

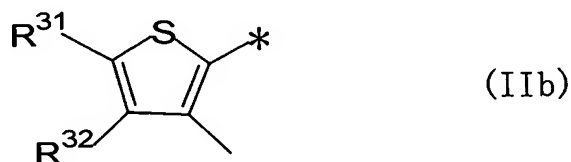
In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIa) or formula (IIa'), more preferably,  $R^1$  and  $R^4$  represent a hydrogen atom; any one of  $R^2$  and  $R^3$  (preferably,  $R^2$ ) represents mono- or di- $C_{1-6}$  alkylamino optionally having a substituent, preferably hydroxyl,  $C_{1-6}$  alkyl optionally substituted by hydroxyl, an oxygen atom ( $=O$ ), mono- or di- $C_{1-6}$  alkylamino which may form cyclic amino, or carboxyl, and the dialkylamino group together may form cyclic amino optionally having a substituent, preferably hydroxyl,  $C_{1-6}$  alkyl optionally substituted by hydroxyl, an oxygen atom ( $=O$ ), mono- or di- $C_{1-6}$  alkylamino which may form cyclic amino, or carboxyl, and the cyclic amino group may contain 1 to 3 heteroatoms; and the other (preferably,  $R^3$ ) represents a hydrogen atom.

In the above preferred embodiment, more preferably, the cyclic amino group may be a five- to seven-membered heterocyclic group that optionally contains one oxygen atom, one nitrogen atom, or one sulfur atom in addition to the nitrogen atom in the amino group. Particularly preferred saturated cyclic amino groups include pyrrolidyl, piperidyl, piperazyl, morpholyl, thiomorpholyl, homopiperidyl, and [1,4]diazepine.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIa) or formula (IIa'), more preferably,  $R^1$  and  $R^4$  represent a hydrogen atom; any one of  $R^2$  and  $R^3$  (preferably,  $R^2$ ) represents  $C_{1-6}$  alkoxy optionally having a substituent, preferably a halogen atom, mono- or di-alkylamino which may form cyclic amino, hydroxyl,  $C_{1-6}$  alkoxy- $(CH_2CH_2O)_m$  wherein m is an integer of 1 to 6, or  $C_{3-7}$  cycloalkyl; and the other (preferably,  $R^3$ ) represents a hydrogen atom.

In the above preferred embodiment, more preferably, the cyclic amino group may be a five- to seven-membered heterocyclic group that optionally contains one oxygen atom, one nitrogen atom, or one sulfur atom in addition to the nitrogen atom in the amino group. Particularly preferred saturated cyclic amino groups include pyrrolidyl, piperidyl, piperazyl, morpholyl, thiomorpholyl, homopiperidyl, and [1,4]diazepine.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, preferably, the five- to nine-membered unsaturated carbocyclic moiety or the five- to nine-membered unsaturated heterocyclic moiety represented by A represents formula (IIb):



wherein  $R^{31}$  and  $R^{32}$ , which may be the same or different, represent a hydrogen atom; a halogen atom; or  $C_{1-6}$  alkyl in which the alkyl group is optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy, (5)  $C_{1-6}$  alkylthio, (6)  $C_{1-6}$  alkylsulfonyl, (7) mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by  $C_{1-6}$  alkyl, and the aryl group is optionally substituted by a halogen,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, or  $C_{1-6}$  alkylamino; or  $C_{2-6}$  alkenyl,

when  $R^{31}$  and  $R^{32}$  represent alkyl or alkenyl, the alkyl or alkenyl groups together with the carbon atoms to which they are respectively attached may form an unsaturated five- to seven-membered carbocyclic ring, and

\* represents a bond to  $-C(=O)-N(-Z)(-R^{104})$ .

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIb), preferably,

$R^{31}$  and  $R^{32}$ , which may be the same or different, represent a hydrogen atom; a halogen atom; or  $C_{1-6}$  alkyl in which the alkyl group is optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy,

(5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl, and the aryl group is optionally substituted by a halogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, or C<sub>1-6</sub> alkylamino,

when R<sup>31</sup> and R<sup>32</sup> represent alkyl, the alkyl groups together with the carbon atoms to which they are respectively attached may form an unsaturated five- to seven-membered carbocyclic ring, and, in this case, R<sup>31</sup> and R<sup>32</sup> together form a C<sub>3-5</sub> alkylene chain, and ---- represents a double bond.

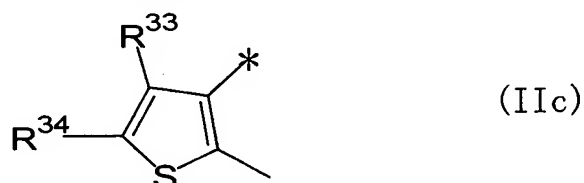
In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIb), more preferably,

- (i) R<sup>31</sup> and R<sup>32</sup> represent a hydrogen atom, or
- (ii) any one of R<sup>31</sup> and R<sup>32</sup> represents a hydrogen atom, and the other represents C<sub>1-6</sub> alkyl optionally substituted by mono- or di-C<sub>1-6</sub> alkylamino, which may form cyclic amino, preferably piperidyl, morpholyl, and thiomorpholyl, or by a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or
- (iii) R<sup>31</sup> and R<sup>32</sup>, which may be the same or different, represent C<sub>1-6</sub> alkyl optionally substituted by mono- or di-C<sub>1-6</sub> alkylamino, which may form cyclic amino, preferably piperidyl, morpholyl, and thiomorpholyl, or by a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or
- (iv) R<sup>31</sup> and R<sup>32</sup> together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring, preferably a cyclohexane ring, a benzene ring, and a cyclopentane ring.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIb), more preferably, R<sup>31</sup> and R<sup>32</sup> represent a hydrogen atom, or any one of R<sup>31</sup> and R<sup>32</sup> represents a hydrogen atom with the other representing C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or R<sup>31</sup> and R<sup>32</sup> together with the carbon atoms to which they are respectively attached form an unsaturated five- to seven-membered carbocyclic ring. In this case, R<sup>31</sup>

and  $R^{32}$  together may form a  $C_{3-5}$  alkylene chain, and  $\text{---}$  may represent a double bond.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, preferably, the five- to nine-membered unsaturated carbocyclic moiety or the five- to nine-membered unsaturated heterocyclic moiety represented by A represents formula (IIc):



wherein  $R^{33}$  and  $R^{34}$ , which may be the same or different, represent a hydrogen atom; a halogen atom; or  $C_{1-6}$  alkyl in which the alkyl group is optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy, (5)  $C_{1-6}$  alkylthio, (6)  $C_{1-6}$  alkylsulfonyl, (7) mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by  $C_{1-6}$  alkyl, and the aryl group is optionally substituted by a halogen,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, or  $C_{1-6}$  alkylamino,

when  $R^{33}$  and  $R^{34}$  represent alkyl, the alkyl groups together with the carbon atoms to which they are respectively attached may form an unsaturated five- to seven-membered carbocyclic ring, and

\* represents a bond to  $-\text{C}(=\text{O})-\text{N}(-\text{Z})(-\text{R}^{104})$ .

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIc), preferably,

$R^{33}$  and  $R^{34}$ , which may be the same or different, represent a hydrogen atom; a halogen atom; or  $C_{1-6}$  alkyl in which the alkyl group is optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy, (5)  $C_{1-6}$  alkylthio, (6)  $C_{1-6}$  alkylsulfonyl, (7) mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by  $C_{1-6}$  alkyl, and the aryl group is optionally substituted by a halogen,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, or  $C_{1-6}$  alkylamino,



6 alkylamino,

when  $R^{33}$  and  $R^{34}$  represent alkyl, the alkyl groups together with the carbon atoms to which they are respectively attached may form an unsaturated five- to seven-membered carbocyclic ring, and, in this case,  
 5  $R^{33}$  and  $R^{34}$  together form a  $C_{3-5}$  alkylene chain, and  $\text{---}$  represents a double bond.

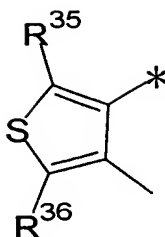
In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIc), more preferably,

- (i)  $R^{33}$  and  $R^{34}$  represent a hydrogen atom, or
- 10 (ii) any one of  $R^{33}$  and  $R^{34}$  represents a hydrogen atom, and the other represents  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, preferably piperidyl, morpholyl, and thiomorpholyl, or by a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or
- 15 (iii)  $R^{33}$  and  $R^{34}$ , which may be the same or different, represent  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, preferably piperidyl, morpholyl, and thiomorpholyl, or by a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or
- 20 (iv)  $R^{33}$  and  $R^{34}$  together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring, preferably a cyclohexane ring, a benzene ring, and a cyclopentane ring.

In formula (I) and formula (I-1) and formula (I-2) which will be  
 25 described later, when A represents formula (IIc), more preferably,  $R^{33}$  and  $R^{34}$  represent a hydrogen atom, or any one of  $R^{33}$  and  $R^{34}$  represents a hydrogen atom with the other representing  $C_{1-6}$  alkyl optionally substituted by a halogen atom, or  $R^{33}$  and  $R^{34}$  together with the carbon atoms to which they are respectively attached form an  
 30 unsaturated five- to seven-membered carbocyclic ring. In this case,  $R^{33}$  and  $R^{34}$  together may form a  $C_{3-5}$  alkylene chain, and  $\text{---}$  may represent a double bond.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, preferably, the five- to nine-membered saturated or  
 35 unsaturated carbocyclic moiety or the five- to nine-membered saturated or unsaturated heterocyclic moiety represented by A represents formula

(IIId):



(IIId)

5 wherein  $R^{35}$  and  $R^{36}$ , which may be the same or different, represent a hydrogen atom; a halogen atom; or  $C_{1-6}$  alkyl in which the alkyl group is optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy, (5)  $C_{1-6}$  alkylthio, (6)  $C_{1-6}$  alkylsulfonyl, (7) mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino may form cyclic amino optionally containing  
 10 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by  $C_{1-6}$  alkyl, and the aryl group is optionally substituted by a halogen,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, or  $C_{1-6}$  alkylamino; or  $C_{2-6}$  alkenyl, and

15 \* represents a bond to  $-C(=O)-N(-Z)(-R^{104})$ .

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when A represents formula (IIId), more preferably,  $R^{35}$  and  $R^{36}$  represent a hydrogen atom, or any one of  $R^{35}$  and  $R^{36}$  represents a hydrogen atom with the other representing  $C_{1-6}$  alkyl  
 20 optionally substituted by a halogen atom.

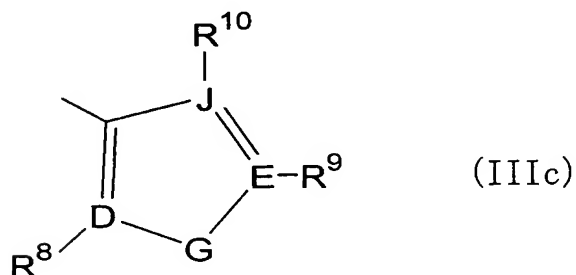
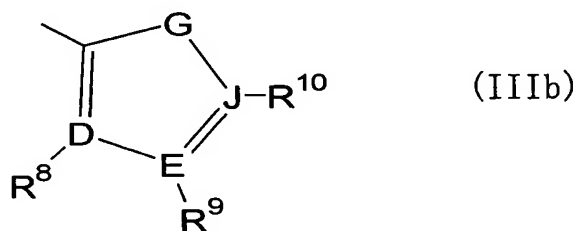
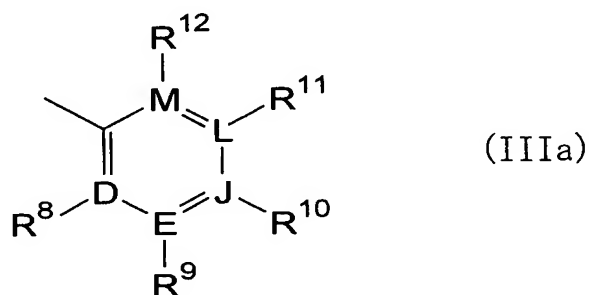
In formula (I) and formula (I-1) and formula (I-2) which will be described later, preferably,  $R^5$  may represent optionally substituted  $C_{5-7}$  cycloalkyl, optionally substituted aryl, more preferably phenyl or naphthyl, an optionally substituted saturated or unsaturated five- or six-membered  
 25 heterocyclic group, more preferably pyridyl, furyl, thienyl, isoxazole, and pyrimidyl, or an optionally substituted saturated or unsaturated nine- to eleven-membered bicyclic heterocyclic group, more preferably quinoxaliny.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, particularly preferably,  $R^5$  represents a cyclic group  
 30 selected from  $C_{5-7}$  cycloalkyl, phenyl, pyridyl, furyl, thienyl, isoxazole, pyrimidyl, and quinoxaliny, in which the cyclic group is optionally

substituted by a halogen atom; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom; C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom; or hydroxyl.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, particularly preferably, R<sup>5</sup> represents a cyclic group selected from C<sub>5-7</sub> cycloalkyl, phenyl, pyridyl, furyl, thienyl, isoxazole, pyrimidyl, and quinoxaliny, in which the cyclic group is optionally substituted by C<sub>1-6</sub> alkyl in which the alkyl group is optionally substituted by optionally substituted C<sub>1-6</sub> alkoxy, optionally substituted C<sub>1-6</sub> alkylthio, optionally substituted C<sub>1-6</sub> alkylsulfinyl, optionally substituted C<sub>1-6</sub> alkylsulfonyl, or optionally substituted mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, preferably, R<sup>5</sup> represents a group of formula (IIIa), (IIIb), or (IIIc):



wherein

D, E, J, L, and M, which may be the same or different, represent a carbon or nitrogen atom,

5 G represents an oxygen or sulfur atom,

$R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$ , which may be the same or different, represent

(I) a halogen atom;

(II)  $C_{1-6}$  alkyl optionally containing a substituent selected from the  
 10 group consisting of (1) hydroxyl, (2) thiol, (3) amino, (4)  $C_{1-6}$  alkoxy, (5)  $C_{1-6}$  alkylthio, (6)  $C_{1-6}$  alkylsulfinyl, (7)  $C_{1-6}$  alkylsulfonyl, (8) mono- or di- $C_{1-6}$  alkylamino, (8') amino substituted by a heterocyclic group optionally substituted by  $C_{1-6}$  alkyl, (9)  $C_{1-6}$  alkylcarbonyloxy, (10)  $C_{1-6}$  alkylcarbonylthio, (11)  $C_{1-6}$  alkylcarbonylamino, (12) aryloxy, (13) arylthio,  
 15 (14) arylsulfinyl, (15) arylsulfonyl, (16) arylamino, (17)  $C_{1-6}$  alkyl- or aryl-sulfonylamino, (18)  $C_{1-6}$  alkyl- or aryl-ureido, (19)  $C_{1-6}$  alkoxy- or aryloxy-carbonylamino, (20)  $C_{1-6}$  alkylamino- or arylamino-carbonyloxy, (21) carboxyl, (22) nitro, (23) a heterocyclic group, (23') Het-S(=O)<sub>j</sub>- wherein Het represents a heterocyclic group, j is 0, 1, or 2, and Het is  
 20 optionally substituted by alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl, (24) cyano, and (25) a halogen atom,  
 25 wherein the alkyl moiety in (4) the  $C_{1-6}$  alkoxy group, (5) the  $C_{1-6}$  alkylthio group, (6) the  $C_{1-6}$  alkylsulfinyl group, and (7) the  $C_{1-6}$  alkylsulfonyl group is optionally substituted by a hydrogen atom, a halogen atom;  $C_{1-6}$  alkyl;  $C_{1-6}$  alkoxy;  $C_{1-6}$  alkylthio; mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3  
 30 heteroatoms; aryloxy; arylthio; hydroxyl; carboxyl; -S(=O)<sub>2</sub>(-OH);  $C_{1-6}$  alkoxy- or aryloxy-carbonyl;  $C_{1-6}$  alkylcarbonyl; aryl; or a heterocyclic group optionally substituted by alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl  
 35 groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxy, and

in (8) the mono- or di-C<sub>1-6</sub> alkylamino group, the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by a halogen atom; C<sub>1-6</sub> alkyl optionally substituted by hydroxyl, a halogen atom, aryl optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, or a heterocyclic group optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, and, when one or two alkyl groups on the amino group and the cyclic amino moiety are substituted by two C<sub>1-6</sub> alkyl groups, they together may form C<sub>3-7</sub> cycloalkyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub> alkylthio; mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl; mono- or di-C<sub>1-6</sub> alkylcarbamoylmethyl in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; aryloxy; arylthio; an oxygen atom (=O); hydroxyl; carboxyl; C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl; C<sub>1-6</sub> alkylcarbonyl; aryl optionally substituted by a halogen atom or hydroxyl; or a heterocyclic group, preferably a five- to seven-membered saturated or unsaturated heterocyclic group, more preferably pyridyl, pyrimidyl, and pyridazyl, and, when one carbon atom in the cyclic amino moiety is substituted by two C<sub>1-6</sub> alkoxy groups which may be the same or different, the two alkoxy groups together may form group -O-(CH<sub>2</sub>)<sub>p</sub>-O- wherein p is an integer of 2 to 4, and the cyclic amino group may condense with a monocyclic or bicyclic aromatic carbocyclic ring, preferably phenyl or naphthyl, or a monocyclic or bicyclic aromatic heterocyclic ring, preferably pyridyl or naphthyridyl, to represent a bicyclic or tricyclic heterocyclic group;

(III) C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom;

(IV) C<sub>1-6</sub> alkylthio optionally substituted by a halogen atom;

(V) C<sub>3-7</sub> cycloalkyl;

(VI) aryl;

(VII) aryloxy;

(VIII) C<sub>1-6</sub> alkylcarbonylamino;

- (VIX) C<sub>1-6</sub> alkylcarbonyloxy;  
 (X) hydroxyl;  
 (XI) nitro;  
 (XII) cyano;  
 5 (XIII) amino;  
 (XIV) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms;  
 (XV) arylamino;  
 (XVI) C<sub>1-6</sub> alkyl- or aryl-sulfonylamino;  
 10 (XVII) C<sub>1-6</sub> alkyl- or aryl-ureido;  
 (XVIII) C<sub>1-6</sub> alkoxy- or aryloxy-carbonylamino;  
 (XIX) C<sub>1-6</sub> alkylamino- or arylamino-carbonyloxy;  
 (XX) C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl;  
 (XXI) acyl;  
 15 (XXII) carboxyl;  
 (XXIII) carbamoyl;  
 (XXIV) mono- or di-alkylcarbamoyl;  
 (XXV) a heterocyclic group;  
 (XXVI) alkyl- or aryl-sulfonyl;  
 20 (XXVII) C<sub>2-6</sub> alkenyloxy;  
 (XXVIII) C<sub>2-6</sub> alkynyloxy; or  
 (XXIX) a hydrogen atom, and

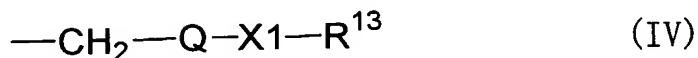
when D, E, J, L, or M represents a nitrogen atom, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup> each are absent, or otherwise together with a nitrogen atom may  
 25 form N-oxide (N → O).

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), formula (IIIb) and formula (IIIc), preferably, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup>, which may be the same or different, represent

- 30 a hydrogen atom;  
 a halogen atom;  
 hydroxymethyl; or  
 C<sub>1-6</sub> alkyl optionally substituted by a halogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be  
 35 described later, when R<sup>5</sup> represents formula (IIIa), formula (IIIb) and formula (IIIc), preferably, the substituted C<sub>1-6</sub> alkyl which may be

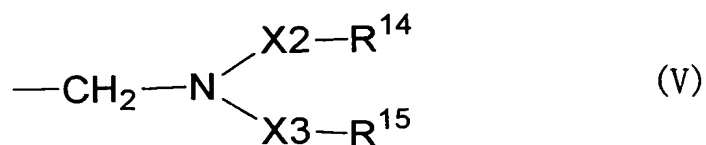
represented by  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$  represents a group of formula (IV):



wherein

5           Q represents an oxygen atom, a sulfur atom, sulfinyl, or sulfonyl,  
           X1 represents a bond or straight chain or branched chain  
 alkylene having 1 to 5 carbon atoms,

$R^{13}$  represents a hydrogen atom, a halogen atom,  $C_{1-6}$  alkyl,  $C_{1-6}$   
 alkoxy,  $C_{1-6}$  alkylthio, mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$   
 10   alkylamino group may form cyclic amino optionally containing 1 to 3  
 heteroatoms, aryloxy, arylthio, hydroxyl, carboxyl,  $\text{—S(=O)}_2\text{(—OH)}$ ,  $C_{1-6}$   
 alkoxy- or aryloxy-carbonyl,  $C_{1-6}$  alkylcarbonyl, aryl, or a heterocyclic  
 group optionally substituted by  $C_{1-6}$  alkyl optionally substituted by mono-  
 or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino group may form  
 15   cyclic amino optionally containing 1 to 3 heteroatoms, and one or two  
 alkyl groups on the amino group and the cyclic amino moiety are  
 optionally substituted by hydroxyl, and this heterocyclic group preferably  
 represents a five- or six-membered saturated or unsaturated heterocyclic  
 group;  
 20   or a group of formula (V)



wherein

          X2 represents a bond or straight chain or branched chain  
 alkylene having 1 to 5 carbon atoms,

25           X3 represents a bond or straight chain or branched chain  
 alkylene having 1 to 5 carbon atoms,

$R^{14}$  and  $R^{15}$ , which may be the same or different, represent a  
 hydrogen atom; a halogen atom;  $C_{1-6}$  alkyl optionally substituted by  
 hydroxyl, a halogen atom, aryl optionally substituted by a halogen atom,  
 30    $C_{1-6}$  alkyl, or  $C_{1-6}$  alkyloxy, a heterocyclic group optionally substituted by  
 a halogen atom,  $C_{1-6}$  alkyl, or  $C_{1-6}$  alkyloxy, and, when one or two alkyl  
 groups on the amino group and the cyclic amino moiety are substituted

by two C<sub>1-6</sub> alkyl groups, they together may form C<sub>3-7</sub> cycloalkyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub> alkylthio; mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl; mono- or di-C<sub>1-6</sub> alkylcarbamoylmethyl in which the di-C<sub>1-6</sub> alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; aryloxy; arylthio; an oxygen atom (=O); hydroxyl; carboxyl; C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl; C<sub>1-6</sub> alkylcarbonyl; aryl optionally substituted by a halogen atom or hydroxyl; or a heterocyclic group, preferably a five- or six-membered saturated or unsaturated heterocyclic group, provided that, when X<sub>2</sub> represents a bond, R<sup>14</sup> represents a hydrogen atom, or when X<sub>3</sub> represents a bond, R<sup>15</sup> represents a hydrogen atom, or

R<sup>14</sup> and R<sup>15</sup> together with a nitrogen atom to which they are respectively attached may form a heterocyclic group that may contain 1 to 3 heteroatoms, preferably one oxygen atom, one nitrogen atom, or one sulfur atom, in addition to the nitrogen atom, to which R<sup>14</sup> and R<sup>15</sup> are attached, and is optionally substituted by hydroxyl; C<sub>1-6</sub> alkyl optionally substituted by hydroxyl, a halogen atom, aryl optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, or a heterocyclic group optionally substituted by a halogen atom, C<sub>1-6</sub> alkyl, or C<sub>1-6</sub> alkyloxy, and, when one or two alkyl groups on the amino group and the cyclic amino moiety are substituted by two C<sub>1-6</sub> alkyl groups, they together may form C<sub>3-7</sub> cycloalkyl; mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; a saturated or unsaturated five- or six-membered heterocyclic group; mono- or di-C<sub>1-6</sub> alkylcarbamoylmethyl in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on the amino group and the cyclic amino moiety are optionally substituted by hydroxyl; phenyl; or an oxygen atom (=O), and, when one carbon atom in the cyclic amino moiety is substituted by two



C<sub>1-6</sub> alkoxy groups which may be the same or different, the two alkoxy groups together may form group -O-(CH<sub>2</sub>)<sub>p</sub>-O- wherein p is an integer of 2 to 4, and the cyclic amino group may condense with a monocyclic or bicyclic aromatic carbocyclic ring, preferably phenyl or naphthyl, or a  
 5 monocyclic or bicyclic aromatic heterocyclic ring, preferably pyridyl or naphthyridyl, to represent a bicyclic or tricyclic heterocyclic group.

Preferably, the cyclic amino group present in formula (IV) and formula (V) may be a five- to seven-membered heterocyclic group that optionally contains one oxygen atom, one nitrogen atom, or one sulfur  
 10 atom in addition to the nitrogen atom in the amino group, more preferably piperidyl, piperazyl, morpholyl, and thiomorpholyl.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), formula (IIIb) or formula (IIIc), preferably, D, E, J, L, and M represent a carbon atom.

15 In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), formula (IIIb) or formula (IIIc), preferably, any one or two of D, E, J, L, and M represent a nitrogen atom and the others represent a carbon atom.

In formula (I) and formula (I-1) and formula (I-2) which will be  
 20 described later, when R<sup>5</sup> represents formula (IIIa), preferably, D, E, J, L, and M represent a carbon atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), preferably, any one or two of D, E, J, L, and M represent a nitrogen atom with the others  
 25 representing a carbon atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIb), preferably, D, E, and J represent a carbon atom, and G represents an oxygen or sulfur atom.

30 In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIc), preferably, D, E, and J represent a carbon atom, and G represents an oxygen or sulfur atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), preferably, D, E, J, L, and M represent a carbon atom, any one of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup>  
 35 represents a group other than a hydrogen atom, and the others represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when  $R^5$  represents formula (IIIa), preferably, D, E, J, L, and M represent a carbon atom, any one of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$  represents a halogen atom; optionally substituted  $C_{1-6}$  alkyl; or optionally substituted  $C_{1-6}$  alkoxy, and the other groups represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when  $R^5$  represents formula (IIIa), preferably, D, E, J, L, and M represent a carbon atom,  $R^{10}$  represents a group other than a hydrogen atom, preferably substituted  $C_{1-6}$  alkyl, more preferably a group of formula (IV) or formula (V), and  $R^8$ ,  $R^9$ ,  $R^{11}$ , and  $R^{12}$  represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when  $R^5$  represents formula (IIIa), preferably, D, E, J, L, and M represent a carbon atom,  $R^{11}$  represents a group other than a hydrogen atom, preferably substituted  $C_{1-6}$  alkyl, more preferably a group of formula (IV) or formula (V), and  $R^8$ ,  $R^9$ ,  $R^{10}$ , and  $R^{12}$  represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when  $R^5$  represents formula (IIIa), preferably, D, E, J, L, and M represent a carbon atom, and any two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$  represent a group other than a hydrogen atom with the others representing a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when  $R^5$  represents formula (IIIa), preferably, D, E, J, L, and M represent a carbon atom,  $R^{10}$  and  $R^{11}$  represent a group other than a hydrogen atom, preferably optionally substituted  $C_{1-6}$  alkoxy, more preferably optionally substituted methoxy, and  $R^8$ ,  $R^9$ , and  $R^{12}$  represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when  $R^5$  represents formula (IIIa), preferably, D, E, J, L, and M represent a carbon atom,  $R^9$  and  $R^{11}$  represent a group other than a hydrogen atom, preferably, optionally substituted  $C_{1-6}$  alkoxy, more preferably optionally substituted methoxy, and  $R^8$ ,  $R^{10}$ , and  $R^{12}$  represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when  $R^5$  represents formula (IIIb) and formula (IIIc),

preferably, D, E, and J represent a carbon atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIb) and formula (IIIc), preferably, any one or two of D, E, and J represent a nitrogen atom with  
5 the other(s) representing a carbon atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), preferably,

D, E, J, L, and M represent a carbon atom,

any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup>, which may be the  
10 same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), preferably,  
15

any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom,

any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl  
20 optionally substituted by a halogen atom, or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIb), preferably,

25 D, E, and J represent a carbon atom, and G represents an oxygen or sulfur atom,

one or two of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen  
30 atom, and the others represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIc), preferably,

D, E, and J represent a carbon atom, and G represents an oxygen or sulfur atom,

35 one or two of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally

substituted by a halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom; and the others represent a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), preferably,

5           D, E, J, L, and M represent a carbon atom,  
              R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom,  
              one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above with the other groups representing  
 10          a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIa), preferably,

             any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom,  
 15           R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom,  
              one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above with the other groups representing  
              a hydrogen atom.

20           In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIb), preferably,

             D, E, and J represent a carbon atom, and G represents an oxygen or sulfur atom,  
              one of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup> represents a group of formula (IV) wherein  
 25          Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above with the others representing  
              a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, when R<sup>5</sup> represents formula (IIIc), preferably,

30           D, E, and J represent a carbon atom, and G represents an oxygen or sulfur atom,  
              one of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above with the others  
 35          representing a hydrogen atom.

In formula (I) and formula (I-1) and formula (I-2) which will be

described later, preferably,  $R^6$  represents a hydrogen atom; optionally substituted  $C_{1-6}$  alkyl; or optionally substituted aryl.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, more preferably,  $R^6$  represents a hydrogen atom;  $C_{1-6}$  alkyl optionally substituted by a halogen atom or  $C_{1-6}$  alkoxy; or aryl optionally substituted by a halogen atom,  $C_{1-6}$  alkyl, or  $C_{1-6}$  alkoxy, most preferably, a hydrogen atom, or  $C_{1-6}$  alkyl.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, preferably,  $R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group.

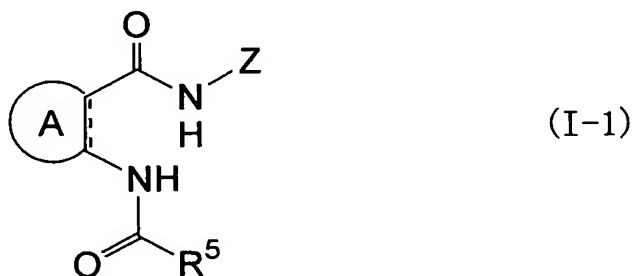
In formula (I) and formula (I-1) and formula (I-2) which will be described later, more preferably,  $R^7$  represents a cyclic group selected from phenyl, naphthyl, furyl, pyrrolyl, and thienyl, and the cyclic group is optionally substituted by a halogen atom;  $C_{1-6}$  alkyl optionally substituted by a halogen atom;  $C_{1-6}$  alkoxy in which the alkoxy group is optionally substituted by a halogen atom, aryloxy optionally substituted by a halogen atom and  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy in which the alkoxy group is optionally substituted by mono- or di- $C_{1-6}$  alkylamine in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, or a halogen atom, arylthio optionally substituted by a halogen atom and  $C_{1-6}$  alkyl,  $C_{1-6}$  alkylthio in which the alkylthio group is optionally substituted by mono- or di- $C_{1-6}$  alkylamine in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, or a halogen atom, arylamino optionally substituted by  $C_{1-6}$  alkyl, mono- or di- $C_{1-6}$  alkylamine in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms; hydroxyl; mono- or di- $C_{1-6}$  alkylamine in which the di- $C_{1-6}$  alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms; nitro;  $C_{2-6}$  alkenyloxy; or  $C_{2-6}$  alkynyloxy.

In formula (I) and formula (I-1) and formula (I-2) which will be described later, preferably,  $R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,  $R^7$  represents optionally substituted aryl, preferably phenyl or naphthyl, optionally substituted aryl, preferably phenyl or naphthyl,  $C_{1-6}$  alkyl, optionally substituted aryl, preferably phenyl or naphthyl,  $C_{2-6}$  alkenyl, or

optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably furyl, thienyl, pyrrolyl, or pyridyl.

Among the compounds of formula (I), hydrazine derivatives may be represented by formula (I-1).

5



wherein A, R<sup>5</sup>, Z, and ---- are as defined in formula (I).

In formula (I-1), preferably,

10 A represents formula (IIa) or formula (IIa') wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are as defined in formula (IIa) and formula (IIa') and are preferably the same or different and represent a hydrogen atom; a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; or optionally substituted C<sub>1-6</sub> alkoxy,

15 R<sup>5</sup> represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally substituted aryl, preferably phenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl and more preferably represents a group of formula (IIIa), formula (IIIb) or formula (IIIc), and

20 Z represents group (A), group (B), or group (C) wherein R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl, R<sup>7</sup> represents optionally substituted aryl, preferably phenyl or naphthyl, optionally substituted aryl, preferably phenyl or naphthyl, C<sub>1-6</sub> alkyl, optionally substituted aryl, preferably phenyl or naphthyl, C<sub>2-6</sub> alkenyl, or optionally substituted  
25 saturated or unsaturated five- or six-membered heterocyclic group, preferably furyl, thienyl, pyrrolyl, or pyridyl, and R<sup>17</sup> represents a hydrogen atom.

In formula (I-1), preferably,

30 A represents formula (IIa) wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are as defined in formula (IIa),

---- represents a double bond,

R<sup>5</sup> represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally substituted aryl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl and more preferably represents a group of formula (IIIa),  
5 formula (IIIb), or formula (IIIc), and

Z represents group (A) or group (B) wherein R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl, R<sup>7</sup> represents optionally substituted aryl, preferably phenyl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or  
10 unsaturated five- or six-membered heterocyclic group, and R<sup>17</sup> represents a hydrogen atom.

In formula (I-1), preferably,

A represents formula (IIb) wherein R<sup>31</sup> and R<sup>32</sup> are as defined in formula (IIb), preferably, R<sup>31</sup> and R<sup>32</sup> represent a hydrogen atom, or any  
15 one of R<sup>31</sup> and R<sup>32</sup> represents a hydrogen atom with the other representing C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or R<sup>31</sup> and R<sup>32</sup> together form a C<sub>3-5</sub> alkylene chain,

R<sup>5</sup> represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally substituted aryl, preferably phenyl, or optionally substituted saturated or  
20 unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl, more preferably represents a group of formula (IIIa), formula (IIIb), or formula (IIIc), and

Z represents group (A) or group (B) wherein R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl, R<sup>7</sup> represents optionally substituted aryl,  
25 optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and R<sup>17</sup> represents a hydrogen atom.

In formula (I-1), preferably,

A represents formula (IIc) wherein R<sup>33</sup> and R<sup>34</sup> are as defined in  
30 formula (IIc), and, preferably, R<sup>33</sup> and R<sup>34</sup> represent a hydrogen atom, or any one of R<sup>33</sup> and R<sup>34</sup> represents a hydrogen atom with the other representing C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or R<sup>33</sup> and R<sup>34</sup> together form a C<sub>3-5</sub> alkylene chain,

R<sup>5</sup> represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally substituted aryl, preferably phenyl, or optionally substituted saturated or  
35 unsaturated five- or six-membered heterocyclic group, preferably pyridyl,

thienyl, isoxazole, or pyrimidyl, and more preferably, represents a group of formula (IIIa), formula (IIIb), or formula (IIIc), and

Z represents group (A) and group (B) wherein  $R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,  $R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and  $R^{17}$  represents a hydrogen atom.

In formula (I-1), preferably,

A represents formula (IIId) wherein  $R^{35}$  and  $R^{36}$  are as defined in formula (IIId), and, preferably,  $R^{35}$  and  $R^{36}$  represent a hydrogen atom, or any one of  $R^{35}$  and  $R^{36}$  represents a hydrogen atom with the other representing  $C_{1-6}$  alkyl optionally substituted by a halogen atom,

$R^5$  represents optionally substituted  $C_{5-7}$  cycloalkyl, optionally substituted aryl, preferably phenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl, and more preferably represents a group of formula (IIIa), formula (IIIb), or formula (IIIc),

Z represents group (A) or group (B) wherein  $R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,  $R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and  $R^{17}$  represents a hydrogen atom.

In formula (I-1), more preferably,

A represents formula (IIa) or formula (IIa'),

wherein

- (1)  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  represent a hydrogen atom,
- (2)  $R^1$  and  $R^4$  represent a hydrogen atom, any one of  $R^2$  and  $R^3$  represents a halogen atom; hydroxyl; optionally substituted  $C_{1-6}$  alkyl; optionally substituted  $C_{1-6}$  alkoxy; optionally substituted mono- or diarylamino; optionally substituted mono- or di- $C_{1-6}$  alkylamino in which the dialkylamino together may form optionally substituted cyclic amino optionally containing 1 to 3 heteroatoms; or optionally substituted mono- or di- $C_{2-6}$  alkenylamino in which the di- $C_{2-6}$  alkenylamino group together may form optionally substituted unsaturated cyclic amino optionally containing 1 to 3 heteroatoms, and the other represents a hydrogen atom,
- (3)  $R^1$  and  $R^4$  represent a hydrogen atom, and  $R^2$  and  $R^3$ , which may be



the same or different, represent a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; or optionally substituted C<sub>1-6</sub> alkoxy,

(4) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, and R<sup>2</sup> and R<sup>3</sup> together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

(5) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, any one of R<sup>2</sup> and R<sup>3</sup> represents optionally substituted mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino together may form optionally substituted cyclic amino optionally containing 1 to 3 heteroatoms, and the other represents a hydrogen atom, or

(6) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, any one of R<sup>2</sup> and R<sup>3</sup> represents optionally substituted C<sub>1-6</sub> alkoxy, and the other represents a hydrogen atom,

R<sup>5</sup> represents formula (IIIa)

wherein

(i) D, E, J, L, and M represent a carbon atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

(ii) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup> may be the same or different and represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

(iii) D, E, J, L, and M represent a carbon atom, R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom, any one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X<sub>1</sub>, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X<sub>2</sub>, X<sub>3</sub>, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the other represents a hydrogen atom, or

(iv) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom, and one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula

(IV) wherein Q, X<sub>1</sub>, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X<sub>2</sub>, X<sub>3</sub>, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the other

represents a hydrogen atom,

Z represents group (A), group (B), or group (C):

wherein

R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl,

5 R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

R<sup>17</sup> represents a hydrogen atom.

10 In formula (I-1), more preferably,

A represents formula (IIa) or formula (IIa')

wherein

(1) R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> represent a hydrogen atom,

(2) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, any one of R<sup>2</sup> and R<sup>3</sup> represents a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; optionally substituted C<sub>1-6</sub> alkoxy; optionally substituted mono- or di-arylamino; optionally substituted mono- or di-C<sub>1-6</sub> alkylamino in which the dialkylamino together may form optionally substituted cyclic amino optionally containing 1 to 3 heteroatoms; or optionally substituted mono- or di-C<sub>2-6</sub> alkenylamino in which the di-C<sub>2-6</sub> alkenylamino group together may form optionally substituted unsaturated cyclic amino optionally containing 1 to 3 heteroatoms, and the other represents a hydrogen atom,

(3) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, and R<sup>2</sup> and R<sup>3</sup>, which may be the same or different, represent a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; or optionally substituted C<sub>1-6</sub> alkoxy,

(4) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, and R<sup>2</sup> and R<sup>3</sup> together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

(5) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, any one of R<sup>2</sup> and R<sup>3</sup> represents optionally substituted mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino together may form optionally substituted cyclic amino optionally containing 1 to 3 heteroatoms, and the other represents a hydrogen atom, or

(6) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, any one of R<sup>2</sup> and R<sup>3</sup> represents optionally substituted C<sub>1-6</sub> alkoxy, and the other represents a hydrogen atom,

$R^5$  represents formula (IIIb) or formula (IIIc)

wherein

- (i) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, any one or two of  $R^8$ ,  $R^9$ , and  $R^{10}$ , which may be the same or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom, or
- (ii) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, one of  $R^8$ ,  $R^9$ , and  $R^{10}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the others represent a hydrogen atom,
- Z represents group (A), group (B), or group (C):
- wherein
- $R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,
- $R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and
- $R^{17}$  represents a hydrogen atom.
- In formula (I-1), more preferably ,
- A represents formula (IIb)
- wherein
- (i)  $R^{31}$  and  $R^{32}$  represent a hydrogen atom,
- (ii) any one of  $R^{31}$  and  $R^{32}$  represents a hydrogen atom, and the other represents  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms,
- (iii)  $R^{31}$  and  $R^{32}$ , which may be the same or different, represent  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or
- (iv)  $R^{31}$  and  $R^{32}$  together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

R<sup>5</sup> represents formula (IIIa)

wherein

- (i) D, E, J, L, and M represent a carbon atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,
- (ii) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup> may be the same or different and represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,
- (iii) D, E, J, L, and M represent a carbon atom, R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom, any one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the other represents a hydrogen atom, or
- (iv) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom, and one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the other represents a hydrogen atom,

Z represents group (A), group (B), or group (C):

wherein

R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl,

R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

R<sup>17</sup> represents a hydrogen atom.

In formula (I-1), more preferably,

A represents formula (IIb)

wherein

(i) R<sup>31</sup> and R<sup>32</sup> represent a hydrogen atom,

(ii) any one of  $R^{31}$  and  $R^{32}$  represents a hydrogen atom, and the other represents  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms,

5 (iii)  $R^{31}$  and  $R^{32}$ , which may be the same or different, represent  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or

(iv)  $R^{31}$  and  $R^{32}$  together with the carbon atoms to which they are  
10 respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

$R^5$  represents formula (IIIb) or formula (IIIc)

wherein

(i) D, E, and J represent a carbon atom, G represents an oxygen or  
15 sulfur atom, any one or two of  $R^8$ ,  $R^9$ , and  $R^{10}$ , which may be the same or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom, or

(ii) D, E, and J represent a carbon atom, G represents an oxygen or  
20 sulfur atom, one of  $R^8$ ,  $R^9$ , and  $R^{10}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the others represent a hydrogen atom,

25 Z represents group (A), group (B), or group (C):

wherein

$R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,

$R^7$  represents optionally substituted aryl, optionally substituted  
30 aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

$R^{17}$  represents a hydrogen atom.

In formula (I-1), more preferably,

A represents formula (IIc)

35 wherein

(i)  $R^{33}$  and  $R^{34}$  represent a hydrogen atom,

(ii) any one of  $R^{33}$  and  $R^{34}$  represents a hydrogen atom, and the other represents  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms,

5 (iii)  $R^{33}$  and  $R^{34}$ , which may be the same or different, represent  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or

10 (iv)  $R^{33}$  and  $R^{34}$  together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

$R^5$  represents formula (IIIa)

wherein

15 (i) D, E, J, L, and M represent a carbon atom, any one or two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$ , which may be the same or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

20 (ii) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, any one or two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$  may be the same or different and represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom, or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

25 (iii) D, E, J, L, and M represent a carbon atom,  $R^8$ ,  $R^9$ , and  $R^{12}$  represent a hydrogen atom, any one of  $R^{10}$  and  $R^{11}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the other represents a hydrogen atom, or

30 (iv) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom,  $R^8$ ,  $R^9$ , and  $R^{12}$  represent a hydrogen atom, and one of  $R^{10}$  and  $R^{11}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the other  
35 represents a hydrogen atom,

Z represents group (A), group (B), or group (C):

wherein

$R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,

$R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

$R^{17}$  represents a hydrogen atom.

In formula (I-1), more preferably,

A represents formula (IIc)

10 wherein

(i)  $R^{33}$  and  $R^{34}$  represent a hydrogen atom,

(ii) any one of  $R^{33}$  and  $R^{34}$  represents a hydrogen atom, and the other represents  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms,

(iii)  $R^{33}$  and  $R^{34}$ , which may be the same or different, represent  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or

20 (iv)  $R^{33}$  and  $R^{34}$  together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

$R^5$  represents formula (IIIb) or formula (IIIc)

wherein

25 (i) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, any one or two of  $R^8$ ,  $R^9$ , and  $R^{10}$ , which may be the same or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom, or

(ii) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, one of  $R^8$ ,  $R^9$ , and  $R^{10}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the others represent a hydrogen atom,

Z represents group (A), group (B), or group (C):

wherein

$R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,

$R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

$R^{17}$  represents a hydrogen atom.

In formula (I-1), more preferably,

A represents formula (II d)

wherein  $R^{35}$  and  $R^{36}$  represent a hydrogen atom, or any one of  $R^{35}$  and  $R^{36}$  represents a hydrogen atom with the other representing  $C_{1-6}$  alkyl optionally substituted by a halogen atom,

$R^5$  represents formula (III a)

wherein

(i) D, E, J, L, and M represent a carbon atom, any one or two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$ , which may be the same or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

(ii) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, any one or two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$  may be the same or different and represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom, or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

(iii) D, E, J, L, and M represent a carbon atom,  $R^8$ ,  $R^9$ , and  $R^{12}$  represent a hydrogen atom, any one of  $R^{10}$  and  $R^{11}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the other represents a hydrogen atom, or

(iv) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom,  $R^8$ ,  $R^9$ , and  $R^{12}$  represent a hydrogen atom, and one of  $R^{10}$  and  $R^{11}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the other represents a hydrogen atom,



Z represents group (A), group (B), or group (C):

wherein

R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl,

5 R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

R<sup>17</sup> represents a hydrogen atom.

In formula (I-1), more preferably,

10 A represents formula (IIId)

wherein R<sup>35</sup> and R<sup>36</sup> represent a hydrogen atom, or any one of R<sup>35</sup> and R<sup>36</sup> represents a hydrogen atom with the other representing C<sub>1-6</sub> alkyl optionally substituted by a halogen atom,

R<sup>5</sup> represents formula (IIIb) or formula (IIIc)

15 wherein

(i) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom, or

(ii) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, one of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) 25 wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the others represent a hydrogen atom,

Z represents group (A), group (B), or group (C):

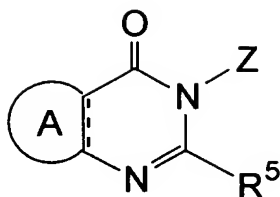
wherein

R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl,

30 R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

R<sup>17</sup> represents a hydrogen atom.

35 Among the compounds of formula (I), quinazolone derivatives may be represented by formula (I-2).



(I-2)

wherein A, R<sup>5</sup>, Z, and ---- are as defined in formula (I).

In formula (I-2), preferably,

A represents formula (IIa) or formula (IIa') wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>,  
 5 and R<sup>4</sup> are as defined in formula (IIa) and formula (IIa') and are preferably the same or different and represent a hydrogen atom; a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; or optionally substituted C<sub>1-6</sub> alkoxy,

R<sup>5</sup> represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally  
 10 substituted aryl, preferably phenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl and more preferably represents a group of formula (IIIa), formula (IIIb) or formula (IIIc).

Z represents group (A), group (B), or group (C) wherein R<sup>6</sup>  
 15 represents a hydrogen atom or C<sub>1-6</sub> alkyl, R<sup>7</sup> represents optionally substituted aryl, preferably, phenyl, or naphthyl, optionally substituted aryl, preferably phenyl, or naphthyl, C<sub>1-6</sub> alkyl, optionally substituted aryl, preferably phenyl, or naphthyl, C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group,  
 20 preferably furyl, thienyl, pyrrolyl, or pyridyl, and R<sup>17</sup> represents a hydrogen atom.

In formula (I-2), preferably,

A represents formula (IIa) wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are as defined in formula (IIa),

25 ---- represents a double bond,

R<sup>5</sup> represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally substituted aryl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl and more preferably represents a group of formula (IIIa),  
 30 formula (IIIb), or formula (IIIc).

Z represents group (A) or group (B) wherein R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl, R<sup>7</sup> represents optionally substituted aryl,

preferably phenyl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and R<sup>17</sup> represents a hydrogen atom.

5 In formula (I-2), preferably,

A represents formula (IIb) wherein R<sup>31</sup> and R<sup>32</sup> are as defined in formula (IIb), preferably, R<sup>31</sup> and R<sup>32</sup> represent a hydrogen atom, or any one of R<sup>31</sup> and R<sup>32</sup> represents a hydrogen atom with the other representing C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or R<sup>31</sup> and R<sup>32</sup> together may form a C<sub>3-5</sub> alkylene chain,

10 R<sup>5</sup> represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally substituted aryl, preferably phenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl, more preferably a group of formula (IIIa), formula (IIIb), or formula (IIIc), and

15 Z represents group (A) or group (B) wherein R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl, R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and R<sup>17</sup> represents a hydrogen atom.

In formula (I-2), preferably,

A represents formula (IIc) wherein R<sup>33</sup> and R<sup>34</sup> are as defined in formula (IIc), and, preferably, R<sup>33</sup> and R<sup>34</sup> represent a hydrogen atom, or any one of R<sup>33</sup> and R<sup>34</sup> represents a hydrogen atom with the other representing C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or R<sup>33</sup> and R<sup>34</sup> together form a C<sub>3-5</sub> alkylene chain,

25 R<sup>5</sup> represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally substituted aryl, preferably phenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl, more preferably a group of formula (IIIa), formula (IIIb), or formula (IIIc), and

30 Z represents group (A) and group (B) wherein R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl, R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and R<sup>17</sup> represents a hydrogen atom.

In formula (I-2), preferably,

A represents formula (IIId) wherein  $R^{35}$  and  $R^{36}$  are as defined in formula (IIId), and  $R^{35}$  and  $R^{36}$  represent a hydrogen atom, or any one of  $R^{35}$  and  $R^{36}$  represents a hydrogen atom with the other representing C<sub>1-6</sub> alkyl optionally substituted by a halogen atom,

$R^5$  represents optionally substituted C<sub>5-7</sub> cycloalkyl, optionally substituted aryl, preferably phenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, preferably pyridyl, thienyl, isoxazole, or pyrimidyl, more preferably a group of formula (IIIa), formula (IIIb), or formula (IIIc),

Z represents group (A) or group (B) wherein  $R^6$  represents a hydrogen atom or C<sub>1-6</sub> alkyl,  $R^7$  represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and  $R^{17}$  represents a hydrogen atom.

In formula (I-2), more preferably,

A represents formula (IIa) or formula (IIa'),  
wherein

- (1)  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  represent a hydrogen atom,
- (2)  $R^1$  and  $R^4$  represent a hydrogen atom, any one of  $R^2$  and  $R^3$  represents a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; optionally substituted C<sub>1-6</sub> alkoxy; optionally substituted mono- or di-arylamino; optionally substituted mono- or di-C<sub>1-6</sub> alkylamino in which the dialkylamino together may form optionally substituted cyclic amino optionally containing 1 to 3 heteroatoms; or optionally substituted mono- or di-C<sub>2-6</sub> alkenylamino in which the di-C<sub>2-6</sub> alkenylamino group together may form optionally substituted unsaturated cyclic amino optionally containing 1 to 3 heteroatoms, and the other represents a hydrogen atom,
- (3)  $R^1$  and  $R^4$  represent a hydrogen atom, and  $R^2$  and  $R^3$ , which may be the same or different, represent a halogen atom; hydroxyl; optionally substituted C<sub>1-6</sub> alkyl; or optionally substituted C<sub>1-6</sub> alkoxy,
- (4)  $R^1$  and  $R^4$  represent a hydrogen atom, and  $R^2$  and  $R^3$  together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,
- (5)  $R^1$  and  $R^4$  represent a hydrogen atom, any one of  $R^2$  and  $R^3$  represents optionally substituted mono- or di-C<sub>1-6</sub> alkylamino in which the

di-C<sub>1-6</sub> alkylamino together may form optionally substituted cyclic amino optionally containing 1 to 3 heteroatoms, and the other represents a hydrogen atom, or

- (6) R<sup>1</sup> and R<sup>4</sup> represent a hydrogen atom, any one of R<sup>2</sup> and R<sup>3</sup> represents optionally substituted C<sub>1-6</sub> alkoxy, and the other represents a hydrogen atom,

R<sup>5</sup> represents formula (IIIa)

wherein

- (i) D, E, J, L, and M represent a carbon atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,
- (ii) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup> may be the same or different and represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,
- (iii) D, E, J, L, and M represent a carbon atom, R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom, any one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the other represents a hydrogen atom,
- (iv) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom, and one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the other represents a hydrogen atom,

Z represents group (A), group (B), or group (C):

wherein

R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl,

- R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic

group, and

$R^{17}$  represents a hydrogen atom.

In formula (I-2), more preferably,

A represents formula (IIa) or formula (IIa')

5 wherein

(1)  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  represent a hydrogen atom,

(2)  $R^1$  and  $R^4$  represent a hydrogen atom, any one of  $R^2$  and  $R^3$  represents a halogen atom; hydroxyl; optionally substituted  $C_{1-6}$  alkyl; optionally substituted  $C_{1-6}$  alkoxy; optionally substituted mono- or di-  
 10 arylamino; optionally substituted mono- or di- $C_{1-6}$  alkylamino in which the dialkylamino together may form optionally substituted cyclic amino optionally containing 1 to 3 heteroatoms; or optionally substituted mono- or di- $C_{2-6}$  alkenylamino in which the di- $C_{2-6}$  alkenylamino group together may form optionally substituted unsaturated cyclic amino optionally  
 15 containing 1 to 3 heteroatoms, and the other represents a hydrogen atom,

(3)  $R^1$  and  $R^4$  represent a hydrogen atom, and  $R^2$  and  $R^3$ , which may be the same or different, represent a halogen atom; hydroxyl; optionally substituted  $C_{1-6}$  alkyl; or optionally substituted  $C_{1-6}$  alkoxy,

(4)  $R^1$  and  $R^4$  represent a hydrogen atom, and  $R^2$  and  $R^3$  together with  
 20 the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

(5)  $R^1$  and  $R^4$  represent a hydrogen atom, any one of  $R^2$  and  $R^3$  represents optionally substituted mono- or di- $C_{1-6}$  alkylamino in which the di- $C_{1-6}$  alkylamino together may form optionally substituted cyclic amino  
 25 optionally containing 1 to 3 heteroatoms, and the other represents a hydrogen atom, or

(6)  $R^1$  and  $R^4$  represent a hydrogen atom, any one of  $R^2$  and  $R^3$  represents optionally substituted  $C_{1-6}$  alkoxy, and the other represents a hydrogen atom,

30  $R^5$  represents formula (IIIb) or formula (IIIc)

wherein

(i) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, any one or two of  $R^8$ ,  $R^9$ , and  $R^{10}$ , which may be the same or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl  
 35 optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen

atom, or

(ii) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, one of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V)

5 wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the others represent a hydrogen atom,

Z represents group (A), group (B), or group (C):

wherein

R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl,

10 R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

R<sup>17</sup> represents a hydrogen atom.

15 In formula (I-2), more preferably ,

A represents formula (IIb)

wherein

(i) R<sup>31</sup> and R<sup>32</sup> represent a hydrogen atom,

20 (ii) any one of R<sup>31</sup> and R<sup>32</sup> represents a hydrogen atom, and the other represents C<sub>1-6</sub> alkyl optionally substituted by mono- or di-C<sub>1-6</sub> alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms,

(iii) R<sup>31</sup> and R<sup>32</sup>, which may be the same or different, represent C<sub>1-6</sub> alkyl optionally substituted by mono- or di-C<sub>1-6</sub> alkylamino, which may form 25 cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or

(iv) R<sup>31</sup> and R<sup>32</sup> together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

30 R<sup>5</sup> represents formula (IIIa)

wherein

(i) D, E, J, L, and M represent a carbon atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a

35 halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

- (ii) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, and R<sup>12</sup> may be the same or different and represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom, or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,
- (iii) D, E, J, L, and M represent a carbon atom, R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom, any one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the other represents a hydrogen atom, or
- (iv) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, R<sup>8</sup>, R<sup>9</sup>, and R<sup>12</sup> represent a hydrogen atom, and one of R<sup>10</sup> and R<sup>11</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined in above, and the other represents a hydrogen atom,
- Z represents group (A), group (B), or group (C):  
wherein
- R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl,  
R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and
- R<sup>17</sup> represents a hydrogen atom.  
In formula (I-2), more preferably,  
A represents formula (IIb)  
wherein
- (i) R<sup>31</sup> and R<sup>32</sup> represent a hydrogen atom,
- (ii) any one of R<sup>31</sup> and R<sup>32</sup> represents a hydrogen atom, and the other represents C<sub>1-6</sub> alkyl optionally substituted by mono- or di-C<sub>1-6</sub> alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms,
- (iii) R<sup>31</sup> and R<sup>32</sup>, which may be the same or different, represent C<sub>1-6</sub> alkyl optionally substituted by mono- or di-C<sub>1-6</sub> alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain



1 to 3 heteroatoms, or

(iv)  $R^{31}$  and  $R^{32}$  together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

5  $R^5$  represents formula (IIIb) or formula (IIIc)  
wherein

(i) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, any one or two of  $R^8$ ,  $R^9$ , and  $R^{10}$ , which may be the same or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl  
10 optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom, or

(ii) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, one of  $R^8$ ,  $R^9$ , and  $R^{10}$  represents a group of formula (IV)  
15 wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the others represent a hydrogen atom,

Z represents group (A), group (B), or group (C):  
wherein

20  $R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,  
 $R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

25  $R^{17}$  represents a hydrogen atom.

In formula (I-2), more preferably,

A represents formula (IIc)

wherein

(i)  $R^{33}$  and  $R^{34}$  represent a hydrogen atom,

30 (ii) any one of  $R^{33}$  and  $R^{34}$  represents a hydrogen atom, and the other represents  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms,

(iii)  $R^{33}$  and  $R^{34}$ , which may be the same or different, represent  $C_{1-6}$  alkyl  
35 optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain

1 to 3 heteroatoms, or

(iv)  $R^{33}$  and  $R^{34}$  together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-membered carbocyclic ring,

5  $R^5$  represents formula (IIIa)

wherein

(i) D, E, J, L, and M represent a carbon atom, any one or two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$ , which may be the same or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a  
10 halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

(ii) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, any one or two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$  may be the same or different and represent a halogen atom;  
15 hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom, or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

(iii) D, E, J, L, and M represent a carbon atom,  $R^8$ ,  $R^9$ , and  $R^{12}$  represent a hydrogen atom, any one of  $R^{10}$  and  $R^{11}$  represents a group of formula  
20 (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the other represents a hydrogen atom, or

(iv) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom,  $R^8$ ,  $R^9$ , and  $R^{12}$  represent a  
25 hydrogen atom, and one of  $R^{10}$  and  $R^{11}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the other represents a hydrogen atom,

Z represents group (A), group (B), or group (C):

30 wherein

$R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,

$R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic  
35 group, and

$R^{17}$  represents a hydrogen atom.

In formula (I-2), more preferably,

A represents formula (IIc)

wherein

(i)  $R^{33}$  and  $R^{34}$  represent a hydrogen atom,

5 (ii) any one of  $R^{33}$  and  $R^{34}$  represents a hydrogen atom, and the other represents  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms,

10 (iii)  $R^{33}$  and  $R^{34}$ , which may be the same or different, represent  $C_{1-6}$  alkyl optionally substituted by mono- or di- $C_{1-6}$  alkylamino, which may form cyclic amino, or a halogen atom, and the cyclic amino group may contain 1 to 3 heteroatoms, or

(iv)  $R^{33}$  and  $R^{34}$  together with the carbon atoms to which they are respectively attached form a saturated or unsaturated five- to seven-  
15 membered carbocyclic ring,

$R^5$  represents formula (IIIb) or formula (IIIc)

wherein

(i) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, any one or two of  $R^8$ ,  $R^9$ , and  $R^{10}$ , which may be the same  
20 or different, represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom, or

(ii) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, one of  $R^8$ ,  $R^9$ , and  $R^{10}$  represents a group of formula (IV)  
25 wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the others represent a hydrogen atom,

Z represents group (A), group (B), or group (C):

30 wherein

$R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,

$R^7$  represents optionally substituted aryl, optionally substituted aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic  
35 group, and

$R^{17}$  represents a hydrogen atom.

In formula (I-2), more preferably,

A represents formula (IId)

wherein  $R^{35}$  and  $R^{36}$  represent a hydrogen atom, or any one of  $R^{35}$  and  $R^{36}$  represents a hydrogen atom with the other representing  $C_{1-6}$

5 alkyl optionally substituted by a halogen atom,

$R^5$  represents formula (IIIa)

wherein

(i) D, E, J, L, and M represent a carbon atom, any one or two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ , and  $R^{12}$ , which may be the same or different, represent a  
10 halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom; or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

(ii) any one or two of D, E, J, L, and M represent a nitrogen atom, and the others represent a carbon atom, any one or two of  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  
15 and  $R^{12}$  may be the same or different and represent a halogen atom; hydroxymethyl;  $C_{1-6}$  alkyl optionally substituted by a halogen atom, or  $C_{1-6}$  alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom,

(iii) D, E, J, L, and M represent a carbon atom,  $R^8$ ,  $R^9$ , and  $R^{12}$  represent  
20 a hydrogen atom, any one of  $R^{10}$  and  $R^{11}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the other represents a hydrogen atom, or

(iv) any one or two of D, E, J, L, and M represent a nitrogen atom, and  
25 the others represent a carbon atom,  $R^8$ ,  $R^9$ , and  $R^{12}$  represent a hydrogen atom, and one of  $R^{10}$  and  $R^{11}$  represents a group of formula (IV) wherein Q, X1, and  $R^{13}$  are as defined above, or a group of formula (V) wherein X2, X3,  $R^{14}$ , and  $R^{15}$  are as defined above, and the other represents a hydrogen atom,

30 Z represents group (A), group (B), or group (C):

wherein

$R^6$  represents a hydrogen atom or  $C_{1-6}$  alkyl,

$R^7$  represents optionally substituted aryl, optionally substituted  
aryl  $C_{1-6}$  alkyl, optionally substituted aryl  $C_{2-6}$  alkenyl, or optionally  
35 substituted saturated or unsaturated five- or six-membered heterocyclic group, and

R<sup>17</sup> represents a hydrogen atom.

In formula (I-2), more preferably,

A represents formula (IIId)

wherein R<sup>35</sup> and R<sup>36</sup> represent a hydrogen atom, or any one of

- 5 R<sup>35</sup> and R<sup>36</sup> represents a hydrogen atom with the other representing C<sub>1-6</sub> alkyl optionally substituted by a halogen atom,

R<sup>5</sup> represents formula (IIIb) or formula (IIIc)

wherein

- 10 (i) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, any one or two of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup>, which may be the same or different, represent a halogen atom; hydroxymethyl; C<sub>1-6</sub> alkyl optionally substituted by a halogen atom; or C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom, and the others represent a hydrogen atom, or

- 15 (ii) D, E, and J represent a carbon atom, G represents an oxygen or sulfur atom, one of R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup> represents a group of formula (IV) wherein Q, X1, and R<sup>13</sup> are as defined above, or a group of formula (V) wherein X2, X3, R<sup>14</sup>, and R<sup>15</sup> are as defined above, and the others represent a hydrogen atom,

- 20 Z represents group (A), group (B), or group (C):

wherein

R<sup>6</sup> represents a hydrogen atom or C<sub>1-6</sub> alkyl,

- 25 R<sup>7</sup> represents optionally substituted aryl, optionally substituted aryl C<sub>1-6</sub> alkyl, optionally substituted aryl C<sub>2-6</sub> alkenyl, or optionally substituted saturated or unsaturated five- or six-membered heterocyclic group, and

R<sup>17</sup> represents a hydrogen atom.

Examples of preferred compounds according to the present invention include compounds 1 to 1077 described in the Examples.

- 30 Compounds of formula (I) according to the present invention include compounds wherein

A represents a five- to nine-membered unsaturated carbocyclic moiety or a five- to nine-membered unsaturated heterocyclic moiety, and  $\text{---}=\text{---}$  represents a double bond,

- 35 the carbocyclic moiety and heterocyclic moiety represented by A are optionally substituted by

- (a) a halogen atom;  
 (b) hydroxyl;  
 (c) C<sub>1-6</sub> alkyl;  
 (d) C<sub>1-6</sub> alkoxy;  
 5 (e) aryl;  
 (f) aryloxy;  
 (g) arylthio;  
 (h) alkylthio;  
 (i) nitro; or  
 10 (j) amino,  
 (c) the C<sub>1-6</sub> alkyl group, (d) the C<sub>1-6</sub> alkoxy group, (e) the aryl group, (f) the aryloxy group, (g) the arylthio group, and (h) the alkylthio group are optionally substituted by (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfonyl, (7) mono- or di-C<sub>1-6</sub>  
 15 alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms, (8) aryloxy, (9) arylthio, (10) arylsulfonyl, (11) aryl, (12) a heterocyclic group, (13) a halogen atom, or (14) arylamino in which the amino group is optionally substituted by C<sub>1-6</sub> alkyl, and the aryl group is optionally substituted by a halogen atom, C<sub>1-6</sub>  
 20 alkyl, C<sub>1-6</sub> alkoxy, or C<sub>1-6</sub> alkylamino,  
 when the carbocyclic moiety and the heterocyclic moiety are substituted by two (c) C<sub>1-6</sub> alkyl groups, they together may form a C<sub>3-5</sub> alkylene chain,  
 R<sup>5</sup> represents C<sub>1-6</sub> alkyl, aryl, C<sub>1-6</sub> alkoxy, aryloxy, C<sub>1-6</sub> alkylamino,  
 25 arylamino, C<sub>1-6</sub> alkylthio, arylthio, C<sub>3-7</sub> cycloalkyl, or a heterocyclic group, and the C<sub>1-6</sub> alkyl, aryl, C<sub>1-6</sub> alkoxy, aryloxy, C<sub>1-6</sub> alkylamino, arylamino, C<sub>1-6</sub> alkylthio, arylthio, C<sub>3-7</sub> cycloalkyl, or heterocyclic group represented by R<sup>5</sup> may be the same or different, and is optionally substituted by  
 (I) a halogen atom;  
 30 (II) C<sub>1-6</sub> alkyl optionally containing a substituent selected from the group consisting of (1) hydroxyl, (2) thiol, (3) amino, (4) C<sub>1-6</sub> alkoxy, (5) C<sub>1-6</sub> alkylthio, (6) C<sub>1-6</sub> alkylsulfinyl, (7) C<sub>1-6</sub> alkylsulfonyl, (8) mono- or di-C<sub>1-6</sub> alkylamino, (8') amino substituted by a heterocyclic group optionally substituted by C<sub>1-6</sub> alkyl, (9) C<sub>1-6</sub> alkylcarbonyloxy, (10) C<sub>1-6</sub>  
 35 alkylcarbonylthio, (11) C<sub>1-6</sub> alkylcarbonylamino, (12) aryloxy, (13) arylthio, (14) arylsulfinyl, (15) arylsulfonyl, (16) arylamino, (17) C<sub>1-6</sub> alkyl- or aryl-

sulfonylamino, (18) C<sub>1-6</sub> alkyl- or aryl-ureido, (19) C<sub>1-6</sub> alkoxy- or  
 aryloxy-carbonylamino, (20) C<sub>1-6</sub> alkylamino- or arylamino-carbonyloxy,  
 (21) carboxyl, (22) nitro, (23) a heterocyclic group, (23') Het-S(=O)<sub>j</sub>-  
 wherein Het represents a heterocyclic group, j is 0, 1, or 2, and Het is  
 5 optionally substituted by alkyl optionally substituted by mono- or di-C<sub>1-6</sub>  
 alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino  
 optionally containing 1 to 3 heteroatoms and one or two alkyl groups on  
 the amino group and the cyclic amino moiety are optionally substituted  
 by hydroxyl, (24) cyano, and (25) a halogen atom,  
 10 wherein the alkyl moiety in (4) the C<sub>1-6</sub> alkoxy group, (5) the C<sub>1-6</sub> alkylthio  
 group, (6) the C<sub>1-6</sub> alkylsulfinyl group, and (7) the C<sub>1-6</sub> alkylsulfonyl group  
 is optionally substituted by a halogen atom; C<sub>1-6</sub> alkyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub>  
 alkylthio; mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino  
 group may form cyclic amino optionally containing 1 to 3 heteroatoms;  
 15 aryloxy; arylthio; hydroxyl; carboxyl; -S(=O)<sub>2</sub>(-OH); C<sub>1-6</sub> alkoxy- or  
 aryloxy-carbonyl; C<sub>1-6</sub> alkylcarbonyl; aryl; or a heterocyclic group  
 optionally substituted by alkyl optionally substituted by mono- or di-C<sub>1-6</sub>  
 alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino  
 optionally containing 1 to 3 heteroatoms, and one or two alkyl groups on  
 20 the amino group and the cyclic amino moiety are optionally substituted  
 by hydroxy, and  
 in (8) the mono- or di-C<sub>1-6</sub> alkylamino group, the di-C<sub>1-6</sub> alkylamino group  
 may form cyclic amino optionally containing 1 to 3 heteroatoms, and  
 one or two alkyl groups on the amino group and the cyclic amino moiety  
 25 are optionally substituted by a halogen atom; C<sub>1-6</sub> alkyl optionally  
 substituted by hydroxyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub> alkylthio; mono- or di-C<sub>1-6</sub>  
 alkylamino in which one or two alkyl groups on the amino group are  
 optionally substituted by hydroxyl; arylamino in which the amino group is  
 optionally substituted by C<sub>1-6</sub> alkyl; mono- or di-C<sub>1-6</sub>  
 30 alkylcarbamoylmethyl in which the di-C<sub>1-6</sub> alkylamino group may form  
 cyclic amino optionally containing 1 to 3 heteroatoms, and one or two  
 alkyl groups on the amino group and the cyclic amino moiety are  
 optionally substituted by hydroxyl; aryloxy; arylthio; an oxygen atom;  
 hydroxyl; carboxyl; C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl; C<sub>1-6</sub> alkylcarbonyl;  
 35 aryl optionally substituted by a halogen atom or hydroxyl; or a  
 heterocyclic group;

- (III) C<sub>1-6</sub> alkoxy optionally substituted by a halogen atom;
- (IV) C<sub>1-6</sub> alkylthio optionally substituted by a halogen atom;
- (V) C<sub>3-7</sub> cycloalkyl;
- (VI) aryl;
- 5 (VII) aryloxy;
- (VIII) C<sub>1-6</sub> alkylcarbonylamino;
- (VIX) C<sub>1-6</sub> alkylcarbonyloxy;
- (X) hydroxyl;
- (XI) nitro;
- 10 (XII) cyano;
- (XIII) amino;
- (XIV) mono- or di-C<sub>1-6</sub> alkylamino in which the di-C<sub>1-6</sub> alkylamino group may form cyclic amino optionally containing 1 to 3 heteroatoms;
- (XV) arylamino;
- 15 (XVI) C<sub>1-6</sub> alkyl- or aryl-sulfonylamino;
- (XVII) C<sub>1-6</sub> alkyl- or aryl-ureido;
- (XVIII) C<sub>1-6</sub> alkoxy- or aryloxy-carbonylamino;
- (XIX) C<sub>1-6</sub> alkylamino- or arylamino-carbonyloxy;
- (XX) C<sub>1-6</sub> alkoxy- or aryloxy-carbonyl;
- 20 (XXI) acyl;
- (XXII) carboxyl;
- (XXIII) carbamoyl;
- (XXIV) mono- or di-alkylcarbamoyl;
- (XXV) a heterocyclic group;
- 25 (XXVI) alkyl- or aryl-sulfonyl;
- (XXVII) C<sub>2-6</sub> alkenyloxy; or
- (XXVIII) C<sub>2-6</sub> alkynyloxy,

Z represents group A or group B wherein R<sup>6</sup>, R<sup>7</sup>, and R<sup>17</sup> are as defined in formula (I),

30 R<sup>101</sup> and R<sup>102</sup> together represent =O, and R<sup>103</sup> and R<sup>104</sup> represent a hydrogen atom, or R<sup>101</sup> and R<sup>104</sup> together represent a bond, and R<sup>102</sup> and R<sup>103</sup> together represent a bond.

Compounds according to the present invention may form pharmaceutically acceptable salts thereof. Preferred examples of such salts include: alkali metal or alkaline earth metal salts such as sodium  
35 salts, potassium salts or calcium salts; hydrohalogenic acid salts such as

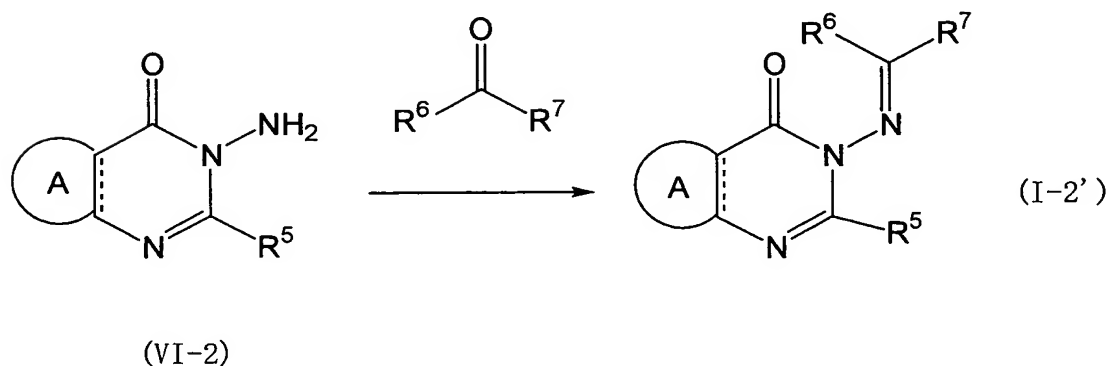
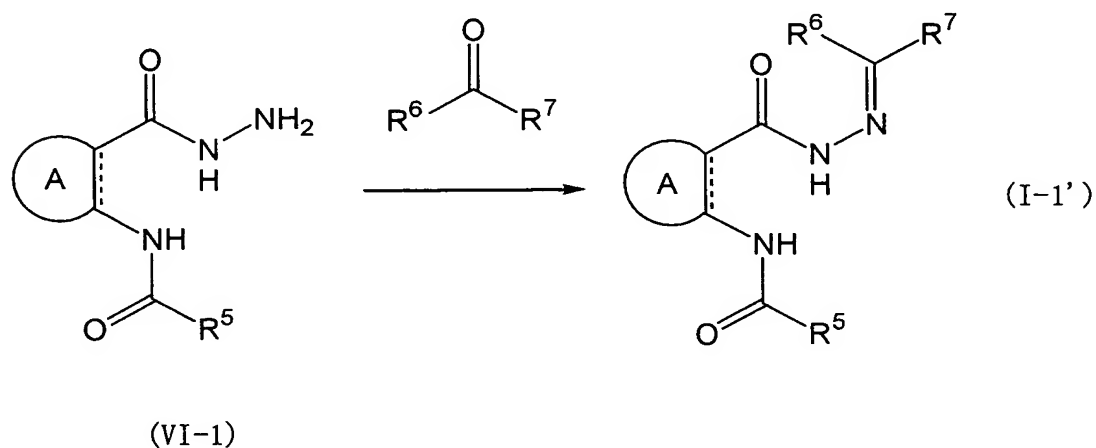


hydrofluoride salts, hydrochloride salts, hydrobromide salts, or hydroiodide salts; inorganic acid salts such as nitric acid salts, perchloric acid salts, sulfuric acid salts, or phosphoric acid salts; lower alkylsulfonic acid salts such as methanesulfonic acid salts, trifluoromethanesulfonic acid salts, or ethanesulfonic acid salts; arylsulfonic acid salts such as benzenesulfonic acid salts or p-toluenesulfonic acid salts; organic acid salts such as fumaric acid salts, succinic acid salts, citric acid salts, tartaric acid salts, oxalic acid salts, maleic acid salts, acetic acid salts, malic acid salts, lactic acid salts, or ascorbic acid salts; and amino acid salts such as glycinate salts, phenylalanine salts, glutamic acid salts, or aspartic acid salts.

#### Production of compounds

Compounds of formula (I) may be produced by reacting a hydrazine compound of formula (VI-1) or (VI-2) with a suitable carbonyl compound (compound C) in a suitable solvent, for example, toluene, in the presence of a suitable acid catalyst, for example, acetic acid.

#### Scheme 1

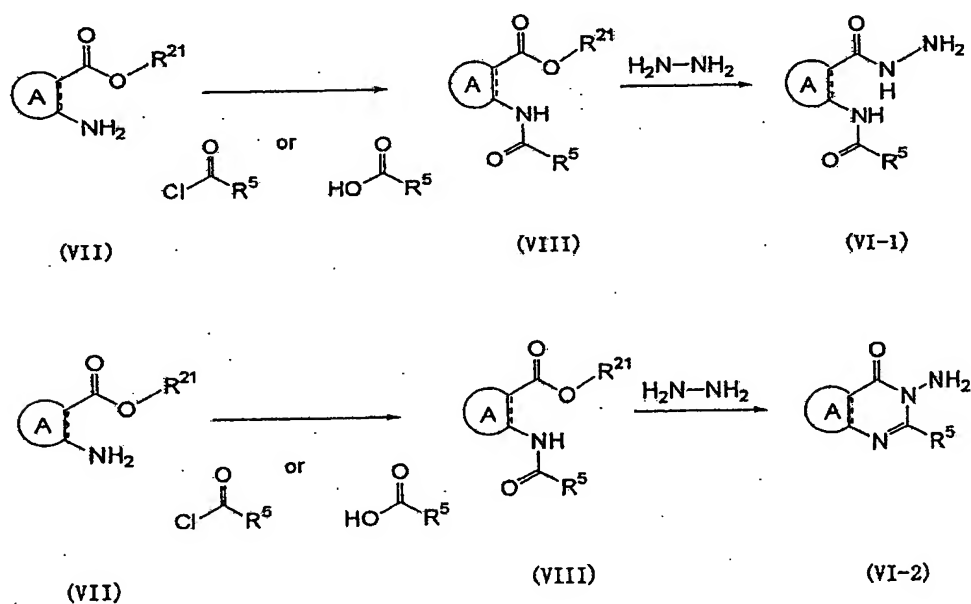


wherein A, R<sup>5</sup>, R<sup>6</sup>, and R<sup>7</sup> are as defined in formula (I).

The compound of formula (VI-1) and the compound of formula (VI-2) may be commercially available products, or alternatively may be produced by a production process which will be described later.

5 The compound of formula (VI-1) and the compound of formula (VI-2) may also be produced by reacting an amino compound of formula (VII) (compound A) with a suitable acid chloride (compound B), or by reacting an amino compound of formula (VII) (compound A) with a suitable carboxylic acid (compound B) in the presence of a suitable  
 10 condensing agent, for example, 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride, to give an amide compound of formula (VIII), then adding hydrazine to the amide compound of formula (VIII) in a suitable solvent, for example, ethanol, and heating the mixture. A reduced form of formula (VI-2) can be  
 15 produced by carrying out the hydrazination at a higher temperature and prolonging the reaction time. For example, the compound of formula (VI-1) can be produced under reaction conditions of 30 to 40°C and 12 to 24 hr, while the compound of formula (VI-2) can be produced under reaction conditions of 110 to 120°C and 72 to 96 hr.

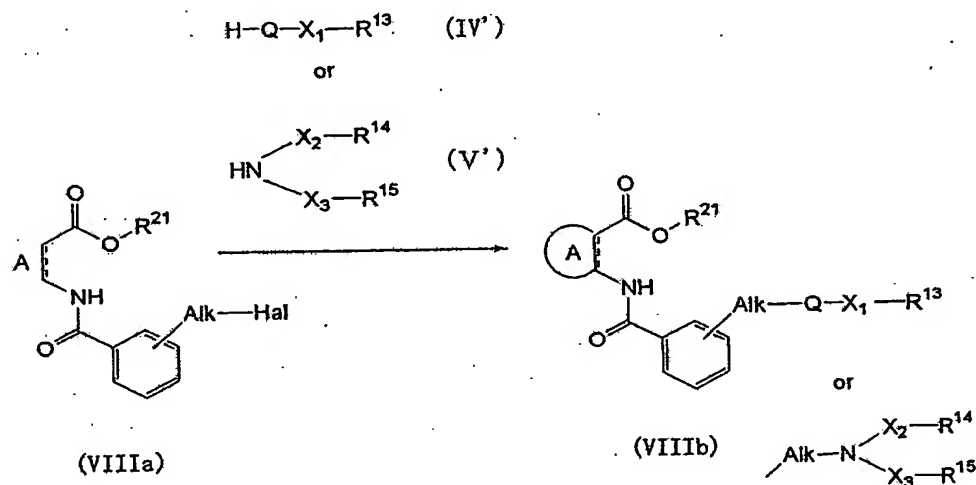
Scheme 2



20 wherein A and R<sup>5</sup> are as defined in formula (I); and R<sup>21</sup> represents a hydrogen atom or a protective group of carboxyl.

The compound wherein  $R^5$  represents phenyl substituted by formula (IV) or formula (V) can be produced by reacting a compound of formula (VIIIa) with a compound of formula (IV') or formula (V') (compound B') to give a compound of formula (VIIIb) and then subjecting the compound of formula (VIIIb) to reactions shown in scheme 1 and scheme 2.

**Scheme 3**



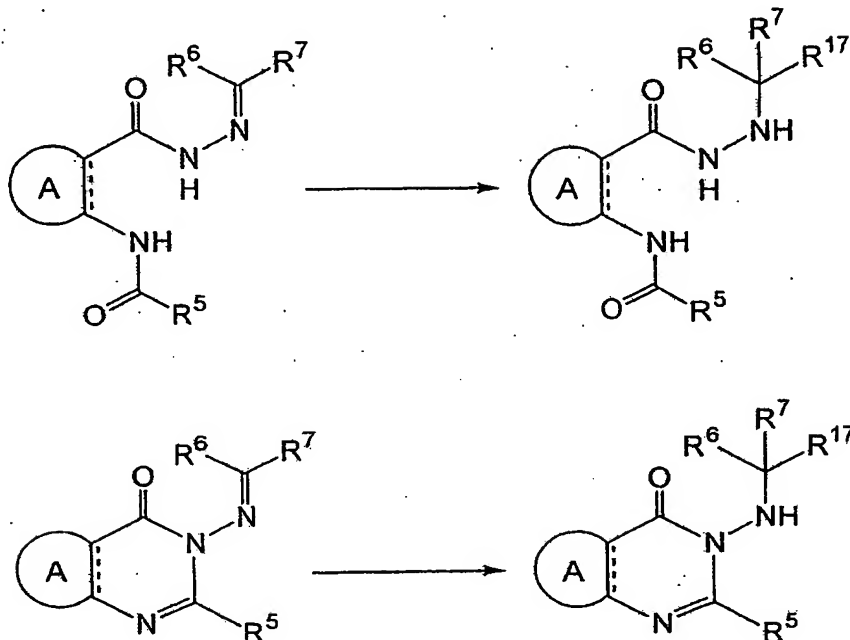
wherein A and  $R^5$  are as defined in formula (I); Q,  $X_1$ , and  $R^{13}$  are as defined in formula (IV);  $X_2$ ,  $X_3$ ,  $R^{14}$  and  $R^{15}$  are as defined in formula (V);  $R^{21}$  represents a hydrogen atom or a protective group of carboxyl; Alk represents an alkylene chain having 1 to 6 carbon atoms; and Hal represents a halogen atom.

Tandem-type compounds of formula (I-3) can also be produced according to scheme 3. Specifically, a compound to which a compound of formula (VIIIa) has been bonded in a tandem manner can be produced by reacting the compound of formula (VIIIa) with  $\text{H}-\text{NR}^{205}-\text{T}-\text{NR}^{205'}-\text{H}$  wherein  $R^{205}$ ,  $R^{205'}$ , and T are as defined in formula (I-3), instead of the compound of formula (IV') and the compound of formula (V'). The compound of formula (I-3) can be produced by subjecting this compound to reactions shown in scheme 1 and scheme 2.

An imine reduced form of formula (I) in which Z represents  $-\text{NH}-\text{CR}^6\text{R}^7\text{R}^{17}$  can be produced by dissolving the compound produced according to scheme 1 in a suitable solvent, for example, methanol, and

reducing the compound with a suitable reducing agent, for example, sodium borohydride).

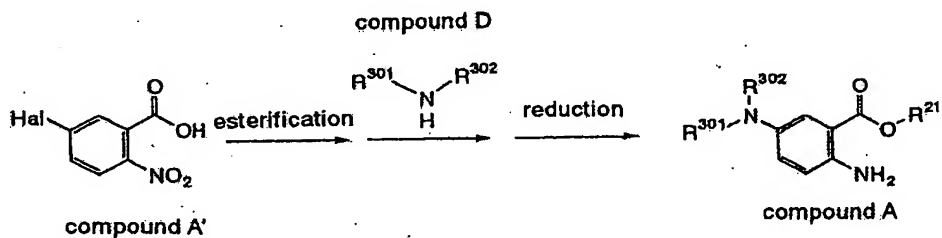
Scheme 4

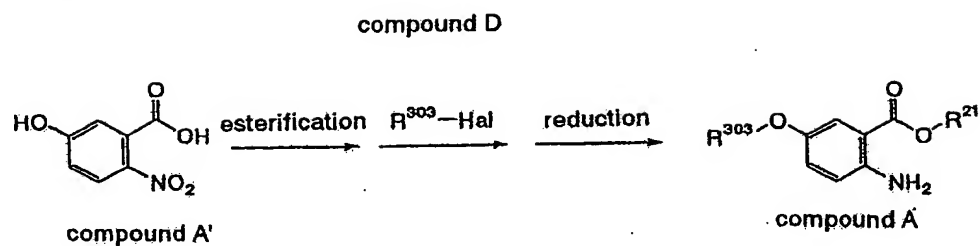
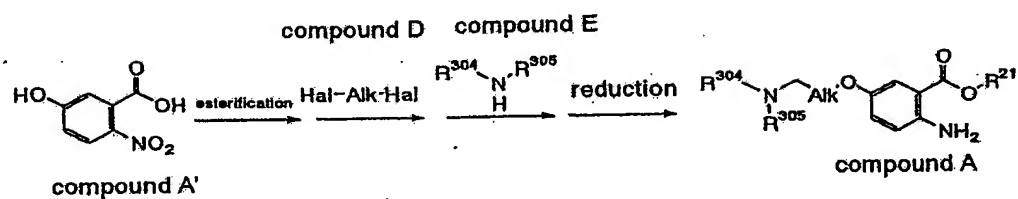
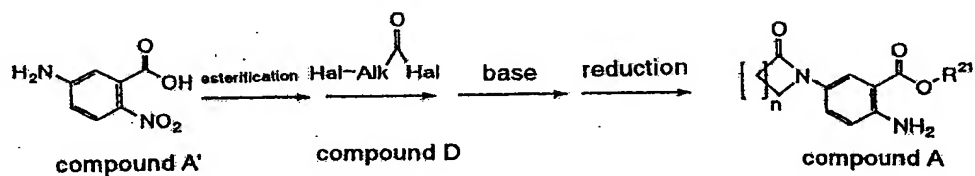
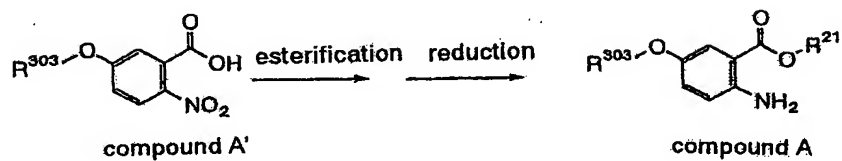


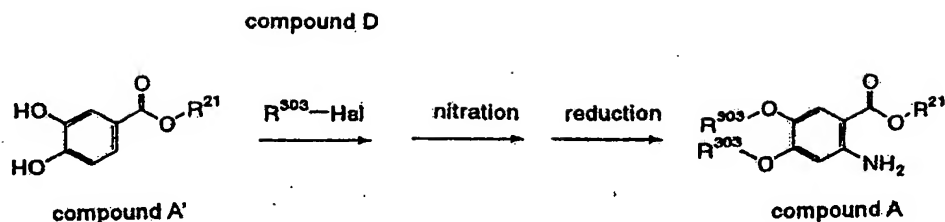
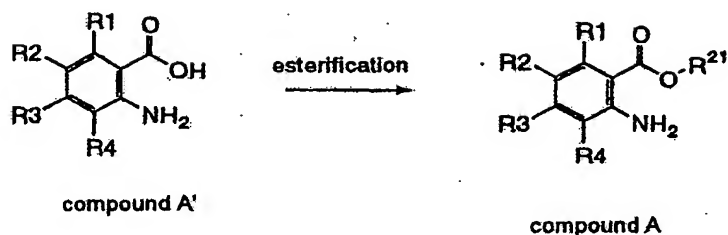
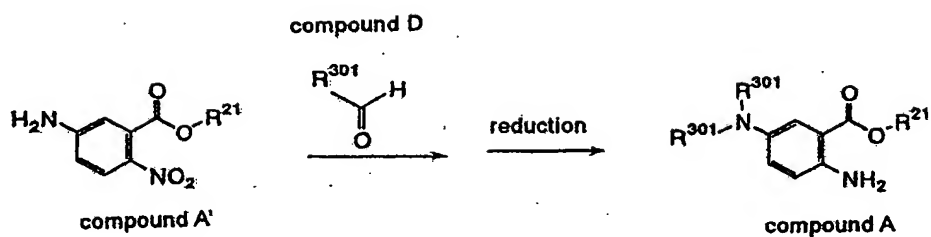
- 5 wherein A, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, and R<sup>17</sup> are as defined in formula (I).

Among amino compounds used as the starting compound in scheme 2, compounds in which ring A is a benzene ring can be synthesized by methods shown in schemes A to H.

Scheme A



Scheme BScheme CScheme DScheme E

Scheme FScheme GScheme H

wherein  $R^{21}$  represents a hydrogen atom or a protective group of carboxyl; Alk represents an alkylene chain having 2 to 7 carbon atoms;  $n$  is an integer of 1 to 6; Hal represents a halogen atom, preferably a bromine or chlorine atom;  $R^{301}$ ,  $R^{302}$ ,  $R^{303}$ ,  $R^{304}$ , and  $R^{305}$  represent optionally substituted  $C_{1-6}$  alkyl, optionally substituted  $C_{2-6}$  alkenyl, optionally substituted aryl, or the like;  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  are as defined in formula (I).

In the above schemes, the esterification can be carried out by esterifying a commercially available carboxylic acid with a suitable esterifying agent, for example, 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride.

5       The introduction of the amino group can be carried out by allowing an alkylamino compound or an arylamino compound to act under basic condition, for example, potassium carbonate.

The reduction of the nitro group can be carried out using a suitable reducing agent, for example, palladium-carbon.

10       Use of compounds

A group of sodium dependent phosphate transporters (NaPi) present in cells are known to be responsible for homeostasis of phosphorus in vivo. In particular, the phosphorus concentration of serum is generally regulated by phosphate absorption in intestinal epithelial cells and phosphate reabsorption in renal tubular cells, and the  
15       above phosphate transporters also participate in these mechanisms.

The compounds according to the present invention can inhibit these phosphate transporters that mainly specify phosphate absorption from the intestinal tract and phosphate reabsorption from the kidney (see  
20       Pharmacological Test Examples 1 to 3).

Further, the compounds according to the present invention can exhibit phosphate absorption inhibitory activity in the intestinal tract of rats (see Pharmacological Test Example 4).

Accordingly, the compounds according to the present invention  
25       can be used for the prevention or treatment of diseases for which serum phosphate lowering action is therapeutically effective.

The term "serum phosphate lowering action" as used herein means action that lowers phosphate concentration of serum. The phosphate concentration of serum is specified by (i) absorption from the intestinal tract and excretion into urine and feces and (ii) introduction and discharge with respect to cells in vivo and calcified tissue typified by osseous tissues. The "serum phosphate lowering action" as used  
30       herein embraces the action of lowering of the serum phosphate concentration in the case of action on a healthy living body and is not  
35       always limited to the action of lowering of serum phosphate concentration in hyperphosphatemia.

Further, the compounds according to the present invention can be used for the prevention or treatment of diseases for which phosphate transport inhibition is therapeutically effective.

5 The term "phosphate transport inhibition" as used herein means the inhibition of transport activity of phosphate transporters present on cell membranes of object cells. Object cells include epithelial cells of small intestine, renal epithelial cells, pulmonary epithelial cells, vascular endothelial cells, vascular smooth muscle cells, or osteoblasts.

10 Diseases for which the serum phosphate lowering action is effective therapeutically and diseases for which phosphate transport inhibition is therapeutically effective include (1) hyperphosphatemia, (2) renal failure and chronic renal failure, (3) secondary hyperparathyroidism and diseases related thereto, (4) metabolic osteopathy, (5) diseases for which the suppression of calcium and/or phosphorus product is effective  
15 therapeutically, and (6) other hyperphosphatemia-related diseases.

(1) Hyperphosphatemia

The compounds according to the present invention can lower the phosphate concentration of serum and can inhibit phosphate transport and thus can be used for the prevention or treatment of  
20 hyperphosphatemia. The term "hyperphosphatemia" as used herein means such a state that the phosphate concentration of serum is beyond a clinically defined normal region.

(2) Renal failure and chronic renal failure

Regarding renal failure and chronic renal failure, it has recently  
25 been suggested that an increase in serum phosphate concentration per se is an exacerbation factor of renal failure. In fact, there are a series of reports on that the progress of the renal failure can be delayed by restriction of phosphate ingestion in chronic renal failure patients (Maschio et al., Kidney Int., 22:371-376,1982, Maschio et al., Kidney Int.,  
30 24:S273-277, 1983, Barsotti et al., Kidney Int. 24:S278-284,1983).

Accordingly, the compounds according to the present invention which can inhibit phosphate transport and can lower phosphate concentration of serum can be used for the prevention or treatment of the renal failure and the chronic renal failure.

35 (3) Secondary hyperparathyroidism and primary hyperparathyroidism and diseases related thereto



It is known that hyperphosphatemia secondarily leads to hypocalcemia and thus induces secondary hyperparathyroidism. Accordingly, the compounds according to the present invention can be used for the prevention and treatment of secondary hyperparathyroidism.

5 Further, in recent years, there are a report that a rise of phosphate concentration promotes the secretion of PTH (parathyroid hormone) from parathyroid cells (Almanden Y et al., J Bone Miner Res 11:970-976, 1996), a report that phosphorus restriction suppresses the secretion (Rachel K et al., J Clin Invest 96:327-333, 1995), a report that  
10 hyperplasia of parathyroids is suppressed (Slatopolsky E et al., J Clin Invest 97:2534-2540, 1996) and the like. When these reports suggesting that the serum phosphate concentration per se participates in hyperplasia of parathyroids and PTH secretion are taken into consideration, it can be said that the compounds according to the  
15 present invention can be used for the prevention and treatment of secondary hyperparathyroidism as well as primary hyperparathyroidism through a lowering in serum phosphate concentration. Further, the compounds according to the present invention can be used for the prevention and treatment of renal osteodystrophy induced by secondary  
20 hyperparathyroidism, that is, osteitis fibrosa, ostealgia and arthralgia, bone deformity, fracture and the like.

The compounds according to the present invention can prevent and treat secondary hyperparathyroidism and thus can also be used for the prevention and treatment of diseases said to be induced by PTH  
25 increase in the secondary hyperparathyroidism, for example, central or peripheral nervous system damage, anemia, myocardiopathy, hyperlipidemia, anomaly of saccharometabolism, pruritus cutaneus, tendon rupture, sexual dysfunction, muscle damage, skin ischemic ulcer, growth retardation, heart conduction disturbance, pulmonary diffusing  
30 impairment, immune deficiency, ostealgia and arthralgia, bone deformity, or fracture.

#### (4) Calcium and phosphorus metabolic disorder

The compounds according to the present invention can remedy clinical conditions of phosphorus metabolic disorder and, at the same  
35 time, are considered to have the effect of remedying clinical conditions of metabolic disorder of minerals including calcium. Accordingly, the

compounds according to the present invention can be used for the prevention and treatment of calcium and phosphorus metabolic disorders such as metabolic osteopathy.

- (5) Diseases for which suppression of calcium and/or phosphorus product is therapeutically effective

In dialysis patients, when poor control of serum phosphate concentration due to administration of a large amount of calcium preparations and administration of a large amount of vitamin D, and overconsumption of proteins is likely to cause ectopic calcification as a result of a rise of calcium and phosphorus product in blood and is in its turn causative of circulatory disorders derived from calcification of blood circulatory systems including coronary artery (Braun J et al., Am J Kidney Dis. 27:394-401, 1996, Goodman WG et al., N Engl J Med 342:1478-1483, 2000, Kimura K et al., Kidney Int. 71: S238-241, 1999). In this case, downward revision of calcium and phosphorus product is effective in remedying clinical condition (Geoffrey AB et al., Am J Kidney Dis. 31:607-617, 1998). The compounds according to the present invention are hyperphosphatemia improving drugs different from calcium preparations and thus can lower the phosphate concentration of serum without a rise of calcium concentration of serum. Thus, the compounds according to the present invention can be used for the treatment of diseases for which the suppression of calcium and/or phosphorus product in blood vessels is therapeutically effective. Such diseases include calcification of cardiovascular system in dialysis patients, age-related arterial sclerosis, diabetic vasculopathy, calcification of soft tissue, metastatic calcification, and ectopic calcification. Since a rise of calcium and phosphorus product is recognized as a risk factor of clinical conditions of red eye, arthralgia, myalgia, pruritus cutaneus, heart conduction disturbance, pulmonary diffusing impairment, angina pectoris, cardiac infarction, or heart failure induced by cardiac murmur or valvular disease (Tetsuo Tagami, Jin To Toseki (Kidney and Dialysis), Vol. 49:189-191, 2000), the compounds according to the present invention can also be used for the prevention and treatment of these diseases.

- (6) Other diseases related to hyperphosphatemia

In addition to the above diseases (1) to (5), hypoparathyroidism, pseudohypoparathyroidism, hypocalcemia, hypercalciuria, vitamin D

toxicosis, acromegaly, overdose of phosphate, acidosis, state of hypercatabolism, rhabdomyolysis, hemolytic anemia, climacteric disturbance, malignant tumor, tumor lysis syndrome, and tumoral calcinosis involve hyperphosphatemia. Therefore, the compounds according to the present invention can also be used for the prevention and treatment of these diseases.

According to the present invention, there is provided a serum phosphate concentration lowering agent comprising the compound according to the present invention.

According to the present invention, there is provided a phosphate transport inhibitor comprising the compound according to the present invention.

According to the present invention, there is provided a method for lowering serum phosphate concentration, comprising administering the compound according to the present invention to a human or a mammal other than a human.

According to the present invention, there is provided a method for inhibiting phosphate transport, comprising administering the compound according to the present invention to a human or mammal other than a human.

#### Pharmaceutical preparation

The compounds according to the present invention can be administered to human and non-human animals orally or parenterally by administration routes, for example, intraoral, nasal administration, transpulmonary administration, intrarectal administration, percutaneous administration, subcutaneous administration, or intravenous administration. Therefore, the compounds according to the present invention can be formulated into suitable dosage forms according to the administration routes. Dosage forms suitable for the above administration routes include tablets, capsules, granules, powders, ointments, poultices, aerosols, suppositories, and injections.

The compound according to the present invention per se can be administered to patients, or alternatively may be administered together with general-purpose preparation additives to patients.

The pharmaceutical composition according to the present invention can be produced according to a well-known formulation

technique by using the compound according to the present invention together with the following additives.

For example, oral preparations, that is, tablets, capsules, granules, and powders, can be produced by conventional methods with the compounds according to the present invention and suitable preparation additives. Additives usable for oral preparations include excipients, binders, disintegrants, and lubricants. They may be used either solely or in a combination of two or more. Excipients include, for example, lactose, mannitol, corn starch, and calcium carbonate. Binders include, for example, gum arabic, tragacanth, gelatin, and methylcellulose. Disintegrants include, for example, corn starch, crystalline cellulose, and carboxymethylcellulose sodium. Lubricants include, for example, talc, and magnesium stearate.

Oral preparations containing the compound according to the present invention may be coated with a coating agent according to a well known method. Coating agents usable herein include, for example, hydroxypropylcellulose, hydroxypropylmethylcellulose, aminoalkylmethacrylate copolymer, hydroxypropylmethylcellulose phthalate, and carboxymethylethylcellulose.

Oral preparations can be modified for effectively drawing phosphate absorption inhibition from intestinal tracts of the compound according to the present invention.

When the compounds according to the present invention are orally administered, there is a possibility that, after the inhibition of phosphate transport carriers in small intestine epithelial cells, they are absorbed in the body and inhibit phosphate transport carriers in vascular endothelial cells, pulmonary epithelial cells, renal epithelial cells, osteoblasts and the like. Accordingly, the compounds according to the present invention have the possibility of inhibiting phosphate absorption from the intestine and further inhibiting phosphate absorption in the kidney to synergistically and effectively lower the phosphate concentration of serum. However, the possibility of exhibiting unknown toxicity upon absorption of the compounds according to the present invention in the body cannot be denied. To avoid this phenomenon, a technique may be adopted in which the compounds according to the present invention can specifically inhibit only small intestine epithelium,

which is the first barrier for phosphate absorption from outside of the body, without the absorption from the intestinal tract. For example, the absorption of the compound per se from the intestinal tract can be prevented by bonding an inert water-soluble polymer to the compounds according to the present invention to increase the water solubility and molecular weight. Water soluble polymers usable herein include, for example, polyethylene glycol, dextran, and gelatin.

An enteric coating may be applied to the oral preparation according to the present invention for specific dissolution in the intestinal tract after oral administration. The enteric coating may be carried out by a well-known method using an enteric coating agent. Enteric coating agents include, for example, hydroxypropylmethylcellulose phthalate, hydroxypropylmethylcellulose acetate succinate, carboxymethylethylcellulose, and methacrylic acid copolymers.

Further, any foamable substance, which, after oral administration, can promote dissolution speed of the preparation in the intestinal tract to enhance the concentration of the effective ingredient, can be added to the oral preparation according to the present invention. Substances which are foamable upon dissolution include, for example, a combination of sodium hydrogencarbonate and citric acid.

Further, any substance, which, after oral administration, can improve the residence of the preparation in the intestinal tract, can be added to the oral preparation according to the present invention. Substances which can improve the residence include substances which become viscous upon dissolution, and examples thereof include sodium alginate, carboxymethylcellulose sodium, hydroxyethylcellulose, hydroxypropylcellulose, hydroxypropylmethylcellulose, polyvinyl alcohol, polyvinyl pyrrolidone, carboxylvinyl polymer, and chitosan.

In the oral preparation according to the present invention, the above modification methods may be properly used in combination.

The compounds according to the present invention and suitable preparation additives may be used for the manufacture of injections by a general-purpose method. Additives usable in injections include diluents, pH adjustors, tonicity adjusting agents, dissolution aids, and preservatives. They may be used either solely or in a combination of two or more. Diluents include, for example, distilled water for injections.

pH adjustors include, for example, hydrochloric acid, sodium hydroxide, a combination of acetic acid with sodium acetate, and a combination of disodium hydrogenphosphate with sodium dihydrogenphosphate. Tonicity adjusting agents include, for example, sodium chloride, glucose, mannitol, and glycine. Dissolution aids include, for example, ethanol, Polysorbate 20, Polysorbate 80, sucrose fatty acid ester, and propylene glycol. Preservatives include, for example, chlorobutanol, benzalconium chloride, and benzethonium chloride.

For the compounds according to the present invention, the dose may be appropriately determined in consideration of particular conditions, for example, the age, weight, sex, type of disease, and severity of condition of patients, and the preparation may be administered, for example, in an amount of 0.1 to 1000 mg/kg, preferably 0.5 to 100 mg/kg, more preferably 1 to 20 mg/kg. This dose may be administered at a time daily or divided doses of several times daily.

### EXAMPLES

The present invention is further illustrated by the following Examples that are not intended as a limitation of the scope of the invention.

5    Example 1

Compound                      1                      3,4-Dimethoxy-N-[2-(3-phenyl-allylidene-hydrazinocarbonyl)-phenyl]-benzamide

          Methyl 2-aminobenzoate (compound A) (2.0 g) was dissolved in anhydrous methylene chloride (40.0 ml). Subsequently, pyridine (2.0  
10    ml) and 3,4-dimethoxybenzoyl chloride (compound B) (3.14 g) were added to the solution at room temperature, and the mixture was stirred at that temperature for 30 min. After the completion of the reaction, distilled water was added thereto, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed  
15    with a saturated aqueous sodium chloride solution, was dried over sodium sulfate, and was then concentrated to give methyl 2-[(3,4-dimethoxybenzoyl)amino]benzoate as a useful intermediate (4.17 g, yield 100%).

          Methyl 2-[(3,4-dimethoxybenzoyl)amino]benzoate (4.17 g)  
20    produced by the above reaction was dissolved in ethanol (40.0 ml). Hydrazine monohydrate (20.0 ml) was added at room temperature, and the mixture was stirred with heating under reflux for 12 hr. After the completion of the reaction, the reaction solution was allowed to cool at room temperature and was cooled under ice cooling to precipitate  
25    crystals. The precipitated crystals were collected by filtration through Kiriya Rohto (40 mmφ) and were washed with ether to give N-(2-hydrazinocarbonyl-phenyl)-3,4-dimethoxybenzamide as a hydrazine compound (3.55 g, yield 91.3%).

          N-(2-Hydrazinocarbonyl-phenyl)-3,4-dimethoxybenzamide (50.0  
30    mg) was dissolved in anhydrous toluene (1.0 ml). Subsequently, a catalytic amount of acetic acid and trans-cinnamaldehyde (compound C) (40.0 μl) were added at room temperature, and the mixture was stirred with heating under reflux for 30 min. After the completion of the reaction, the reaction solution was allowed to cool at room temperature  
35    and was cooled under ice cooling to precipitate crystals. The precipitated crystals were filtered through Kiriya Rohto (21 mmφ) and

were washed with toluene and hexane. The crystals were dried through a vacuum pump to give the title compound 1 (39.0 mg, yield 57.0%).

Mass spectrometric value (ESI-MS) 428 (M-1)

Compound 2 N-[2-(2-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 2 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 420 (M-1)

Compound 3 3,4-Dimethoxy-N-[2-(2-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 3 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 416 (M-1)

Compound 4 3,4-Dimethoxy-N-[2-(2-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 4 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 432 (M-1)

Compound 5 3,4-Dimethoxy-N-[2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 5 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 432 (M-1)

Compound 6 N-[2-(3,5-Di-tert-butyl-4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 6 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 530 (M-1)

Compound 7 3,4-Dimethoxy-N-[2-(2-methyl-3-phenyl-allylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 7 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 442 (M-1)

Compound 8 N-[2-(3,5-Bis-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 8 was produced in the same manner as in



Example 1.

Mass spectrometric value (ESI-MS) 538 (M-1)

Compound 9 N-[2-(3-Cyano-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

5           The title compound 9 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 427 (M-1)

Compound 10 N-[2-(2-Bromo-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

10           The title compound 10 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 480 (M-1)

Compound 11 N-[2-(4-Hydroxy-3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

15           The title compound 11 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 448 (M-1)

Compound 12 3,4-Dimethoxy-N-[2-(3,4,5-trimethoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

20           The title compound 12 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 492 (M-1)

Compound 13 N-[4-Bromo-2-(3-phenyl-allylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

25           The title compound 13 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 508 (M-1)

Compound 14 N-[4-Bromo-2-(2-bromo-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

30           The title compound 14 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 560 (M-1)

Compound 15 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

35           The title compound 15 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 420 (M-1)

Compound 16 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

5 The title compound 16 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 420 (M-1)

Compound 17 N-[2-(Benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

10 The title compound 17 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 402 (M-1)

Compound 18 N-[2-(3-Hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

15 The title compound 18 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 418 (M-1)

Compound 19 N-[2-(4-Hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

20 The title compound 19 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 418 (M-1)

Compound 20 3,4-Dimethoxy-N-[2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

25 The title compound 20 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 416 (M-1)

Compound 21 N-[2-(Furan-2-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

30 The title compound 21 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 392 (M-1)

Compound 22 3,4-Dimethoxy-N-[2-(5-methyl-furan-2-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

35 The title compound 22 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 406 (M-1)

Compound 23 3,4-Dimethoxy-N-[2-(thiophen-2-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 23 was produced in the same manner as in Example 1.

5 Mass spectrometric value (ESI-MS) 408 (M-1)

Compound 24 3,4-Dimethoxy-N-[2-(thiophen-3-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 24 was produced in the same manner as in Example 1.

10 Mass spectrometric value (ESI-MS) 408 (M-1)

Compound 25 N-[2-(2,4-Dihydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 25 was produced in the same manner as in Example 1.

15 Mass spectrometric value (ESI-MS) 434 (M-1)

Compound 26 N-[2-(3,4-Dihydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 26 was produced in the same manner as in Example 1.

20 Mass spectrometric value (ESI-MS) 434 (M-1)

Compound 27 N-[2-(Benzylidene-hydrazinocarbonyl)-phenyl]-2-fluoro-benzamide

The title compound 27 was produced in the same manner as in Example 1.

25 Mass spectrometric value (ESI-MS) 360 (M-1)

Compound 28 N-[4-Bromo-2-(2-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 28 was produced in the same manner as in Example 1.

30 Mass spectrometric value (ESI-MS) 500 (M-1)

Compound 29 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 29 was produced in the same manner as in Example 1.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.55 (1H, d, J = 9.0 Hz), 8.32 (1H, bs), 7.49 - 7.67 (6H, m), 7.40 (1H, q, J = 4.56 Hz), 7.13 (1H, q, J = 5.53 Hz),

6.93 (1H, d, J = 8.8 Hz), 3.98 (3H, s), 3.94 (3H, s)

Mass spectrometric value (ESI-MS) 500 (M-1)

Compound 30 N-[4-Bromo-2-(2-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

5           The title compound 30 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 494 (M-1)

Compound 31 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

10           The title compound 31 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 494 (M-1)

Compound 32 N-[2-(3-Chloro-4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

15           The title compound 32 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 454 (M-1)

Compound 33 3,4-Dimethoxy-N-[2-(4-trifluoromethoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

20           The title compound 33 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 486 (M-1)

Compound 34 N-[2-(3-Bromo-4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

25           The title compound 34 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 512 (M-1)

Compound 35 N-[2-(3-Chloro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

30           The title compound 35 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 436 (M-1)

Compound 36 N-[2-(4-Hydroxy-3,5-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

35           The title compound 36 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 446 (M-1)

Compound 37 N-[2-(3-Ethoxy-4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

5 The title compound 37 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 462 (M-1)

Compound 38 2-Fluoro-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

10 The title compound 38 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 378 (M-1)

Compound 39 2-Fluoro-N-[2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

15 The title compound 39 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 376 (M-1)

Compound 40 2-Fluoro-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

20 The title compound 40 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 374 (M-1)

Compound 41 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

25 The title compound 41 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 504 (M-1)

Compound 42 N-[2-(4-Hydroxy-3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

30 The title compound 42 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 432 (M-1)

Compound 43 N-[2-(2,5-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

35 The title compound 43 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 430 (M-1)

Compound 44 N-[2-(2-Fluoro-5-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 44 was produced in the same manner as in Example 1.

5 Mass spectrometric value (ESI-MS) 488 (M-1)

Compound 45 2-Fluoro-N-[2-(4-hydroxy-3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 45 was produced in the same manner as in Example 1.

10 Mass spectrometric value (ESI-MS) 390 (M-1)

Compound 46 N-[2-(2,5-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-2-fluoro-benzamide

The title compound 46 was produced in the same manner as in Example 1.

15 Mass spectrometric value (ESI-MS) 388 (M-1)

Compound 47 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-methoxy-benzamide

The title compound 47 was produced in the same manner as in Example 1.

20 Mass spectrometric value (ESI-MS) 390 (M-1)

Compound 48 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-methoxy-benzamide

The title compound 48 was produced in the same manner as in Example 1.

25 Mass spectrometric value (ESI-MS) 390 (M-1)

Compound 49 4-Methoxy-N-[2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 49 was produced in the same manner as in Example 1.

30 Mass spectrometric value (ESI-MS) 386 (M-1)

Compound 50 N-[2-(3-Hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-methoxy-benzamide

The title compound 50 was produced in the same manner as in Example 1.

35 Mass spectrometric value (ESI-MS) 388 (M-1)

Compound 51 4-Methoxy-N-[2-(4-methyl-benzylidene-

hydrazinocarbonyl)-phenyl]-benzamide

The title compound 51 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 386 (M-1)

5 Compound 52 N-[2-(4-Allyloxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 52 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 458 (M-1)

10 Compound 53 N-[2-(3,5-Dimethoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 53 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 462 (M-1)

15 Compound 54 3,4-Dimethoxy-N-{2-[3-(3-trifluoromethyl-phenoxy)-benzylidene-hydrazinocarbonyl]-phenyl}-benzamide

The title compound 54 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 562 (M-1)

20 Compound 55 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 55 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 420 (M-1)

25 Compound 56 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 56 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 420 (M-1)

30 Compound 57 3,5-Dimethoxy-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 57 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 416 (M-1)

35 Compound 58 N-[2-(3-Hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 58 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 418 (M-1)

Compound 59 N-[4-Bromo-2-(3-chloro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 59 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 516 (M-1)

Compound 60 N-[4-Bromo-2-(4-chloro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 60 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 516 (M-1)

Compound 61 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 61 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 500 (M-1)

Compound 62 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 62 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 494 (M-1)

Compound 63 N-[4-Bromo-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 63 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 496 (M-1)

Compound 64 N-[4-Bromo-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 64 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 496 (M-1)

Compound 65 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 65 was produced in the same manner as in



Example 1.

Mass spectrometric value (ESI-MS) 454 (M-1)

Compound 66 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

5           The title compound 66 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 454 (M-1)

Compound 67 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

10           The title compound 67 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 450 (M-1)

Compound 68 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

15           The title compound 68 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 9.33 (1H, s), 8.72 (1H, d, J = 8.76 Hz), 8.21 (1H, s), 7.48 - 7.68 (6H, m), 7.20 - 7.25 (1H, m), 6.92 (1H, d, J = 8.56 Hz), 3.97 (3H, s), 3.93 (3H, s), 2.38 (3H, s)

20           Mass spectrometric value (ESI-MS) 450 (M-1)

Compound 69 N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

          The title compound 69 was produced in the same manner as in Example 1.

25           Mass spectrometric value (ESI-MS) 452 (M-1)

Compound 70 N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

          The title compound 70 was produced in the same manner as in Example 1.

30           Mass spectrometric value (ESI-MS) 452 (M-1)

Compound 71 N-[5-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

          The title compound 71 was produced in the same manner as in Example 1.

35           Mass spectrometric value (ESI-MS) 454 (M-1)

Compound 72 N-[5-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-

phenyl]-3,4-dimethoxy-benzamide

The title compound 72 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 454 (M-1)

- 5    Compound 73 N-[5-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 73 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 450 (M-1)

- 10   Compound 74 N-[5-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 74 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 452 (M-1)

- 15   Compound 75 N-[5-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 75 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 452 (M-1)

- 20   Compound 76 4-Fluoro-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 76 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 379 (M-1), 757 (2M-1)

- 25   Compound 77 4-Fluoro-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 77 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 378 (M-1)

- 30   Compound 78 4-Fluoro-N-[2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 78 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 374 (M-1)

- 35   Compound 79 4-Fluoro-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 79 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 374 (M-1)

Compound 80 4-Fluoro-N-[2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 80 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 376 (M-1)

Compound 81 3-Fluoro-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 81 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 378 (M-1)

Compound 82 3-Fluoro-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 82 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 757 (2M-1)

Compound 83 3-Fluoro-N-[2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 83 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 374 (M-1)

Compound 84 3-Fluoro-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 84 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 374 (M-1)

Compound 85 3-Fluoro-N-[2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 85 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 376 (M-1)

Compound 86 3-Fluoro-N-[2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 86 was produced in the same manner as in

Example 1.

Mass spectrometric value (ESI-MS) 376 (M-1)

Compound 87 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

5 The title compound 87 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 582, 584 (M-1)

Compound 88 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

10 The title compound 88 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.49 (1H, d, J = 8.08 Hz), 8.39 (1H, s), 8.06 (1H, s), 7.96 (1H, s), 7.49 - 7.60 (4H, m), 7.41 (1H, d, J = 9.04 Hz), 6.94 (1H, d, J = 8.56 Hz), 3.98 (3H, s, ), 3.94 (3H, s)

15 Mass spectrometric value (ESI-MS) 538, 540 (M-1)

Compound 89 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 89 was produced in the same manner as in Example 1.

20 Mass spectrometric value (ESI-MS) 504, 506 (M-1)

Compound 90 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-methoxy-benzamide

The title compound 90 was produced in the same manner as in Example 1.

25 Mass spectrometric value (ESI-MS) 474 (M-1)

Compound 91 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 91 was produced in the same manner as in Example 1.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 9.53 (1H, s), 8.61 (1H, d, J = 9.04 Hz), 8.21 (1H, s), 7.69 (1H, s), 7.59 - 7.62 (4H, m), 7.46 - 7.50 (1H, m), 7.17 (1H, d, J = 7.56 Hz), 6.91 (1H, d, J = 8.28 Hz), 3.97 (3H, s), 3.93 (3H, s), 2.28 (3H, s), 2.28 (3H, s)

Mass spectrometric value (ESI-MS) 508 (M-1)

35 Compound 92 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 92 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 9.60 (1H, s), 8.65 (1H, d, J = 9.04 Hz), 8.21 (1H, s), 7.44 - 7.62 (6H, m), 7.17 (1H, d, J = 7.80 Hz), 6.91 (1H, d, J = 8.32 Hz), 3.97 (3H, s), 3.92 (3H, s), 2.28 (6H, s)

Mass spectrometric value (ESI-MS) 464 (M-1)

Compound 93 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 93 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 430 (M-1)

Compound 94 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-methoxy-benzamide

The title compound 94 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 400 (M-1)

Compound 95 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-fluoro-benzamide

The title compound 95 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 388 (M-1)

Compound 96 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-fluoro-benzamide

The title compound 96 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 388 (M-1)

Compound 97 N-[4-Bromo-2-(3-bromo-4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 97 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 590 (M-1)

Compound 98 N-[2-(3-Bromo-4-methoxy-benzylidene-hydrazinocarbonyl)-4-chloro-phenyl]-3,4-dimethoxy-benzamide

The title compound 98 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 544 (M-1)

Compound 99 N-[2-(3-Bromo-4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 99 was produced in the same manner as in Example 1.

5 Mass spectrometric value (ESI-MS) 510 (M-1)

Compound 100 N-[2-(3-Bromo-4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-methoxy-benzamide

The title compound 100 was produced in the same manner as in Example 1.

10 Mass spectrometric value (ESI-MS) 482 (M-1)

Compound 101 N-[2-(3-Bromo-4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-fluoro-benzamide

The title compound 101 was produced in the same manner as in Example 1.

15 Mass spectrometric value (ESI-MS) 468, 470 (M-1)

Compound 102 N-[2-(3-Bromo-4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-fluoro-benzamide

The title compound 102 was produced in the same manner as in Example 1.

20 Mass spectrometric value (ESI-MS) 468, 470 (M-1)

Compound 103 3,4-Dimethoxy-N-[2-(3-nitro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 103 was produced in the same manner as in Example 1.

25 Mass spectrometric value (ESI-MS) 447 (M-1)

Compound 104 N-[2-(4-Dimethylamino-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 104 was produced in the same manner as in Example 1.

30 Mass spectrometric value (ESI-MS) 445 (M-1)

Compound 105 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-fluoro-benzamide

The title compound 105 was produced in the same manner as in Example 1.

35 Mass spectrometric value (ESI-MS) 458 (M-1)

Compound 106 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-

phenyl]-4-fluoro-benzamide

The title compound 106 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 456 (M-1)

5    Compound 107 N-[4-Bromo-2-(3-chloro-benzylidene-hydrazinocarbonyl)-phenyl]-4-fluoro-benzamide

The title compound 107 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 472, 474 (M-1)

10    Compound 108 N-[4-Bromo-2-(4-chloro-benzylidene-hydrazinocarbonyl)-phenyl]-4-fluoro-benzamide

The title compound 108 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 472, 474 (M-1)

15    Compound 109 N-[4-Bromo-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-fluoro-benzamide

The title compound 109 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 456, 458 (M-1)

20    Compound 110 N-[4-Bromo-2-(pyridin-3-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 110 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 483 (M-1)

25    Compound 111 N-[4-Chloro-2-(pyridin-3-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 111 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 437 (M-1)

30    Compound 112 4-Methoxy-N-[2-(pyridin-3-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 112 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 373 (M-1)

35    Compound 113 4-Fluoro-N-[2-(pyridin-3-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 113 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 361 (M-1)

Compound 114 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 114 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 498 (M-1)

Compound 115 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 115 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 498, 500 (M-1)

Compound 116 N-[4-Bromo-2-(3-chloro-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 116 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 516, 518 (M-1)

Compound 117 N-[4-Bromo-2-(4-chloro-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 117 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 514, 516 (M-1)

Compound 118 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 118 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 496 (M-1)

Compound 119 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 119 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 494 (M-1)

Compound 120 N-[2-(3-Fluoro-benzylidene-)-hydrazinocarbonyl)-phenyl]-3-trifluoromethoxy-benzamide

The title compound 120 was produced in the same manner as in



Example 1.

Mass spectrometric value (ESI-MS) 444 (M-1)

Compound 121 N-[2-(4-Fluoro-benzylidene-)-hydrazinocarbonyl]-phenyl]-3-trifluoromethoxy-benzamide

5 The title compound 121 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 444 (M-1)

Compound 122 N-[2-(3-Chloro-benzylidene-)-hydrazinocarbonyl]-phenyl]-3-trifluoromethoxy-benzamide

10 The title compound 122 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 459, 461 (M-1)

Compound 123 N-[2-(4-Chloro-benzylidene-)-hydrazinocarbonyl]-phenyl]-3-trifluoromethoxy-benzamide

15 The title compound 123 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 459, 461 (M-1)

Compound 124 N-[2-(4-Methyl-benzylidene-)-hydrazinocarbonyl]-phenyl]-3-trifluoromethoxy-benzamide

20 The title compound 124 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 440 (M-1)

Compound 125 N-[4-(3-Dimethylamino-propoxy)-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

25 The title compound 125 was produced in the same manner as in Example 2, except that N-(2-chloroethyl)-N,N-dimethylamine hydrochloride was changed to 3-dimethylaminopropyl chloride hydrochloride.

Mass spectrometric value (ESI-MS) 521, 523 (M-1)

30 Compound 126 N-[4-Chloro-2-(3,4-dimethoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 126 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 496 (M-1)

35 Compound 127 N-[4-Bromo-2-(3,4-dimethoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 127 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 540 (M-1)

Compound 128 N-[4-Bromo-2-(3,4-dimethoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3,5-dimethoxy-benzamide

The title compound 128 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 542 (M-1)

Compound 129 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 129 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 361 (M-1)

Compound 130 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 130 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 9.69 (1H, s), 9.28 (1H, s), 8.77 (1H, dd, J = 1.44 Hz, J = 4.88 Hz), 8.66 (1H, d, J = 7.80 Hz), 8.25 - 8.33 (2H, m), 7.81 (2H, s), 7.50 - 7.60 (2H, m), 7.43 (1H, dd, J = 4.88 Hz, J = 8.04 Hz), 7.05 - 7.15 (3H, m)

Mass spectrometric value (ESI-MS) 361 (M-1)

Compound 131 N-[2-(3-Methyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 131 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 357 (M-1)

Compound 132 N-[2-(4-Methyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 132 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 357 (M-1)

Compound 133 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 133 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 371 (M-1)

Compound 134 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

5 The title compound 134 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 361 (M-1)

Compound 135 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

10 The title compound 135 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 361 (M-1)

Compound 136 N-[2-(3-Methyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

15 The title compound 136 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 357 (M-1)

Compound 137 N-[2-(4-Methyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

20 The title compound 137 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 357 (M-1)

Compound 138 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

25 The title compound 138 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 371 (M-1)

#### Example 2

Compound 139 N-[4-(2-Dimethylamino-ethoxy)-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

30 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-hydroxy-phenyl]-3,4-dimethoxy-benzamide (50 mg) synthesized in the same manner as in Example 1 was dissolved in anhydrous DMF (1.5 ml). NaH (60% in oil, 20 mg) was added to the solution at room temperature, and the mixture was stirred at that temperature for 5 min. Subsequently, N-(2-chloroethyl)-N,N-dimethylamine hydrochloride (47 mg) was added to  
35 the reaction solution at room temperature, and the mixture was stirred at

that temperature for 12 hr. After the completion of the reaction, distilled water was added dropwise thereto under ice cooling and the mixture was subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine and was dried over sodium sulfate, and the organic layer was concentrated under the reduced pressure. The residue was purified by preparative TLC to give the title compound 139 (32 mg, yield 57.1%).

Mass spectrometric value (ESI-MS) 507 (M-1)

Compound 140 N-[4-(2-Diethylamino-ethoxy)-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 140 was produced in the same manner as in Example 2, except that N-(2-chloroethyl)-N,N-dimethylamine hydrochloride was changed to 2-diethylaminoethyl chloride hydrochloride. Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 141 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methoxy-phenyl]-3,4-dimethoxy-benzamide

The title compound 141 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 450 (M-1)

Compound 142 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methoxy-phenyl]-3,4-dimethoxy-benzamide

The title compound 142 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 450 (M-1)

Compound 143 3,4-Dimethoxy-N-[4-methoxy-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 143 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 446 (M-1)

Compound 144 3,4-Dimethoxy-N-[4-methoxy-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 144 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 446 (M-1)

Compound 145 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methoxy-phenyl]-3,4-dimethoxy-benzamide

The title compound 145 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 460 (M-1)

Compound 146 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-phenyl]-3,4-dimethoxy-benzamide

The title compound 146 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 434 (M-1)

Compound 147 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-phenyl]-3,4-dimethoxy-benzamide

The title compound 147 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 434 (M-1)

Compound 148 3,4-Dimethoxy-N-[4-methyl-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 148 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 430 (M-1)

Compound 149 3,4-Dimethoxy-N-[4-methyl-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 149 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 430 (M-1)

Compound 150 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-phenyl]-3,4-dimethoxy-benzamide

The title compound 150 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 444 (M-1)

Compound 151 Furan-2-carboxylic acid [4-bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 151 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 428 (M-1)

Compound 152 Furan-2-carboxylic acid [4-bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 152 was produced in the same manner as in

Example 1.

Mass spectrometric value (ESI-MS) 428 (M-1)

Compound 153 Furan-2-carboxylic acid [4-bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

5           The title compound 153 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 426 (M-1)

Compound 154 Furan-2-carboxylic acid [4-bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

10           The title compound 154 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 424 (M-1)

Compound 155 Furan-2-carboxylic acid [4-bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

15           The title compound 155 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 438 (M-1)

Compound 156 Furan-2-carboxylic acid [4-bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

20           The title compound 156 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 513, 514 (M-1)

Compound 157 Thiophene-2-carboxylic acid [4-bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

25           The title compound 157 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 446 (M-1)

Compound 158 Thiophene-2-carboxylic acid [4-bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

30           The title compound 158 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 446 (M-1)

Compound 159 Thiophene-2-carboxylic acid [4-bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

35           The title compound 159 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 440 (M-1)

Compound 160 Thiophene-2-carboxylic acid [4-bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 160 was produced in the same manner as in  
5 Example 1.

Mass spectrometric value (ESI-MS) 440 (M-1)

Compound 161 Thiophene-2-carboxylic acid [4-bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 161 was produced in the same manner as in  
10 Example 1.

Mass spectrometric value (ESI-MS) 454, 456 (M-1)

Compound 162 Thiophene-2-carboxylic acid [4-bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 162 was produced in the same manner as in  
15 Example 1.

Mass spectrometric value (ESI-MS) 530 (M-1)

### Example 3

Compound 163 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide hydrochloride

20 A 10% hydrochloric acid-methanol solution (1.0 ml) was added to compound 138 (50 mg) synthesized in the same manner as in Example 1 at room temperature. Further, diethyl ether (5.0 ml) was added thereto, and the mixture was stirred for 30 sec. The reaction solution as such was filtered through Kiriyaama Rohto (21 mmφ), and the  
25 crystals were washed with diethyl ether to give the title compound 163 (47 mg, yield 85.6%).

<sup>1</sup>H-NMR (MeOH-d<sub>4</sub>, 400 MHz): δ 8.97 (2H, d, J = 6.84 Hz), 8.49 (1H, d, J = 8.08 Hz), 8.41 (2H, d, J = 6.56 Hz), 8.23 (1H, s), 7.84 (1H, d, J = 6.56 Hz), 7.56 - 7.61 (2H, m), 7.44 (1H, d, J = 7.80 Hz), 7.28 (1H, dd, J = 7.32 Hz, J = 7.32 Hz), 7.12 (1H, d, J = 7.80 Hz), 2.23 (3H, s), 2.22 (3H, s)  
30

Mass spectrometric value (ESI-MS) 371 (M-1)

Compound 164 N-[2-(4-Methyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide hydrochloride

The title compound 164 was produced in the same manner as in  
35 Example 3.

<sup>1</sup>H-NMR (MeOH-d<sub>4</sub>, 400 MHz): δ 9.22 (1H, s), 8.87 (1H, d, J = 5.4 Hz),

8.83 (1H, d, J = 8.04 Hz), 8.43 (1H, d, J = 8.32 Hz), 8.25 (1H, s), 7.97 - 8.04 (1H, m), 7.81 (1H, dd, J = 1.24 Hz, J = 7.84 Hz), 7.64 (2H, d, J = 8.04 Hz), 7.54 - 7.60 (1H, m), 7.23 - 7.29 (1H, m), 7.18 (2H, d, J = 7.80 Hz), 2.29 (3H, s)

5 Mass spectrometric value (ESI-MS) 357 (M-1)

Compound 165 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide hydrochloride

The title compound 165 was produced in the same manner as in Example 3.

10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 9.92 (1H, s), 9.29 (1H, s), 8.75 - 8.78 (2H, m), 8.30 - 8.40 (1H, m), 8.15 (1H, s), 7.55 - 7.65 (5H, m), 7.42 - 7.49 (2H, m), 7.15 - 7.25 (1H, m), 2.32 (3H, s), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 371 (M-1)

Compound 166 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 166 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 439 (M-1)

20 Compound 167 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 167 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 439 (M-1)

25 Compound 168 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 168 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 437 (M-1)

30 Compound 169 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 169 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 435, 437 (M-1)

35 Compound 170 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 170 was produced in the same manner as in



Example 1.

Mass spectrometric value (ESI-MS) 451, 452 (M-1)

Compound 171 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

5           The title compound 171 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 525, 527 (M-1)

Compound 172 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

10           The title compound 172 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 441, 442 (M-1)

Compound 173 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

15           The title compound 173 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 439 (M-1)

Compound 174 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

20           The title compound 174 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 435 (M-1)

Compound 175 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

25           The title compound 175 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 437, 438 (M-1)

Compound 176 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

30           The title compound 176 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 451, 452 (M-1)

Compound 177 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

35           The title compound 177 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 524, 525 (M-1)

Compound 178 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethyl-benzamide

The title compound 178 was produced in the same manner as in  
5 Example 1.

Mass spectrometric value (ESI-MS) 466, 468 (M-1)

Compound 179 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethyl-benzamide

The title compound 179 was produced in the same manner as in  
10 Example 1.

Mass spectrometric value (ESI-MS) 466 (M-1)

Compound 180 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethyl-benzamide

The title compound 180 was produced in the same manner as in  
15 Example 1.

Mass spectrometric value (ESI-MS) 462 (M-1)

Compound 181 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethyl-benzamide

The title compound 181 was produced in the same manner as in  
20 Example 1.

Mass spectrometric value (ESI-MS) 462, 464 (M-1)

Compound 182 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethyl-benzamide

The title compound 182 was produced in the same manner as in  
25 Example 1.

Mass spectrometric value (ESI-MS) 476, 478 (M-1)

Compound 183 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethyl-benzamide

The title compound 183 was produced in the same manner as in  
30 Example 1.

Mass spectrometric value (ESI-MS) 550 (M-1)

Compound 184 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 184 was produced in the same manner as in  
35 Example 1.

Mass spectrometric value (ESI-MS) 395, 397 (M-1)

Compound 185 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 185 was produced in the same manner as in Example 1.

5 Mass spectrometric value (ESI-MS) 395 (M-1)

Compound 186 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 186 was produced in the same manner as in Example 1.

10 Mass spectrometric value (ESI-MS) 391 (M-1)

Compound 187 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 187 was produced in the same manner as in Example 1.

15 Mass spectrometric value (ESI-MS) 391 (M-1)

Compound 188 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 188 was produced in the same manner as in Example 1.

20 Mass spectrometric value (ESI-MS) 405, 407 (M-1)

Compound 189 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 189 was produced in the same manner as in Example 1.

25 Mass spectrometric value (ESI-MS) 479, 480 (M-1)

Compound 190 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 190 was produced in the same manner as in Example 1.

30 Mass spectrometric value (ESI-MS) 395, 397 (M-1)

Compound 191 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 191 was produced in the same manner as in Example 1.

35 Mass spectrometric value (ESI-MS) 391 (M-1)

Compound 192 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-

phenyl]-isonicotinamide

The title compound 192 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 391 (M-1)

5    Compound 193    N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 193 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 405 (M-1)

10    Compound 194    N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 194 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 479 (M-1)

15    Example 4

Compound 195    N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(pyridin-4-ylsulfanylmethyl)-benzamide

Methyl 2-amino-5-bromobenzoate (compound A) (2.0 g) was dissolved in anhydrous methylene chloride (40.0 ml). Subsequently, pyridine (1.0 ml) and 3-(chloromethyl)benzoyl chloride (compound B) (2.0 g) were added to the solution at room temperature, and the mixture was stirred at that temperature for 3 hr. After the completion of the reaction, distilled water was added thereto, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with a saturated aqueous sodium chloride solution, was dried over sodium sulfate and was then concentrated to give methyl 5-bromo-2-[3-(chloromethyl)benzoyl]aminobenzoate as a useful intermediate (3.32 g, yield 100%).

Subsequently, methyl 5-bromo-2-[3-(chloromethyl)benzoyl]aminobenzoate (1.5 g) was dissolved in anhydrous methylene chloride. Triethylamine (2.0 ml) and 4-mercaptopyridine (compound B') (880 mg) were added to the solution at room temperature, and the mixture was stirred at that temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed

with a saturated aqueous sodium chloride solution, was dried over sodium sulfate, and was then concentrated. Diethyl ether was added to the residue for crystallization. The crystals were filtered through Kiriyaama Rohto (21 mm $\phi$ ) and were washed with diethyl ether to give methyl 5-bromo-2-(3-[(4-pyridylsulfanyl)methyl]benzoylamino)benzoate (1.20 g, yield 67%) as a useful intermediate.

Methyl 5-bromo-2-(3-[(4-pyridylsulfanyl)methyl]benzoylamino)benzoate (1.20 g) obtained by the above reaction was dissolved in ethanol (25.0 ml). Hydrazine monohydrate (2.0 ml) was added to the solution at room temperature, and the mixture was heated under reflux with stirring for one hr. After the completion of the reaction, the reaction solution was allowed to cool at room temperature, was cooled under ice cooling to precipitate crystals. The precipitated crystals were filtered through Kiriyaama Rohto (21 mm $\phi$ ) and were washed with diethyl ether to give N-(4-bromo-2-hydrazinocarbonyl-phenyl)-3-(pyridin-4-ylsulfanylmethyl)-benzamide (753 mg, yield 65.4%) as a hydrazine compound.

N-(4-Bromo-2-hydrazinocarbonyl-phenyl)-3-(pyridin-4-ylsulfanylmethyl)-benzamide (50.0 mg) was dissolved in anhydrous toluene (1.0 ml). Subsequently, a catalytic amount of acetic acid and 3-fluorobenzaldehyde (compound C) (50.0  $\mu$ l) were added to the solution at room temperature, and the mixture was heated under reflux with stirring for one hr. After the completion of the reaction, the reaction solution was allowed to cool at room temperature and was ice-cooled to precipitate crystals. The precipitated crystals were filtered through Kiriyaama Rohto (21 mm $\phi$ ), were washed with toluene and hexane, and were dried through a vacuum pump to give the title compound 195 (27.0 mg, yield 43.6%).

Mass spectrometric value (ESI-MS) 561, 563 (M-1)

Compound 196 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 196 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 563 (M-1)

Compound 197 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 197 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 559 (M-1)

Compound 198 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 198 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 559 (M-1)

Compound 199 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 199 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 571 (M-1)

Compound 200 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 200 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 647 (M-1)

Compound 201 N-[4-Bromo-2-(1-methyl-1H-pyrrol-2-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 201 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 484 (M-1)

Compound 202 N-[4-Bromo-2-(4,5-dimethyl-furan-2-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 202 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 499 (M-1)

Compound 203 N-[2-(4-Methyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide hydrochloride

The title compound 203 was produced in the same manner as in Example 3.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.92 - 8.98 (2H, m), 8.49 (1H, d, J = 8.6 Hz), 8.34 - 8.40 (2H, m), 8.26 (1H, s), 8.81 - 8.87 (1H, m), 7.64 (2H, d, J = 8.0 Hz), 7.55 - 7.61 (1H, m), 7.25 - 7.31 (1H, m), 7.15 - 7.20 (2H, m), 2.30 (3H, s)

Mass spectrometric value (ESI-MS) 357 (M-1)

Compound 204 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-3,4-dimethoxy-benzamide

5 The title compound 204 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 546 (M-1)

Compound 205 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-3,4-dimethoxy-benzamide

10 The title compound 205 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 546 (M-1)

Compound 206 N-[4-Iodo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

15 The title compound 206 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 542 (M-1)

Compound 207 N-[4-Iodo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

20 The title compound 207 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 542 (M-1)

Compound 208 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-3,4-dimethoxy-benzamide

25 The title compound 208 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 556 (M-1)

Compound 209 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-3,4-dimethoxy-benzamide

30 The title compound 209 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 630 (M-1)

Compound 210 N-[2-(1-Methyl-1H-pyrrol-2-ylmethylene-hydrazinocarbonyl)-phenyl]-isonicotinamide

35 The title compound 210 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 346 (M-1)

Compound 211 N-[4-Bromo-2-(1-methyl-1H-pyrrol-2-ylmethylene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 211 was produced in the same manner as in Example 1.

5 Mass spectrometric value (ESI-MS) 424 (M-1)

Compound 212 N-[4-Chloro-2-(1-methyl-1H-pyrrol-2-ylmethylene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 212 was produced in the same manner as in Example 1.

10 Mass spectrometric value (ESI-MS) 380 (M-1)

Compound 213 N-{2-[1-(3-Fluoro-phenyl)-ethylidene-hydrazinocarbonyl]-phenyl}-3,4-dimethoxy-benzamide

The title compound 213 was produced in the same manner as in Example 1.

15 Mass spectrometric value (ESI-MS) 434 (M-1)

Compound 214 N-{4-Bromo-2-[1-(3-fluoro-phenyl)-ethylidene-hydrazinocarbonyl]-phenyl}-3,4-dimethoxy-benzamide

The title compound 214 was produced in the same manner as in Example 1.

20 Mass spectrometric value (ESI-MS) 512, 514 (M-1)

Compound 215 N-[4-Bromo-2-(1-m-toluyyl-ethylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 215 was produced in the same manner as in Example 1.

25 Mass spectrometric value (ESI-MS) 449, 451 (M-1)

Compound 216 N-[4-Bromo-2-(1-p-toluyyl-ethylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 216 was produced in the same manner as in Example 1.

30 Mass spectrometric value (ESI-MS) 449 (M-1)

Compound 217 N-[4-Chloro-2-(1-p-toluyyl-ethylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 217 was produced in the same manner as in Example 1.

35 Mass spectrometric value (ESI-MS) 405 (M-1)

Compound 218 N-[2-(4,5-Dimethyl-furan-2-ylmethylene-



hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 218 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 361 (M-1)

5    Compound        219        N-[2-(4,5-Dimethyl-furan-2-ylmethylene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 219 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 361 (M-1)

10    Compound        220        N-[4-Bromo-2-(4,5-dimethyl-furan-2-ylmethylene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 220 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 439 (M-1)

15    Compound        221        N-[4-Bromo-2-(4,5-dimethyl-furan-2-ylmethylene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 221 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 439, 441 (M-1)

20    Compound        222        N-[4-Chloro-2-(4,5-dimethyl-furan-2-ylmethylene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 222 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 395 (M-1)

25    Compound        223        N-[4-Chloro-2-(4,5-dimethyl-furan-2-ylmethylene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 223 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 395 (M-1)

30    Compound        224        N-[2-(Benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 224 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 342 (M-1)

35    Compound        225        N-[2-(2-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 225 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 360 (M-1)

Compound 226 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 226 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 360 (M-1)

Compound 227 N-[2-(Benzylidene-hydrazinocarbonyl)-4,5-dimethoxy-phenyl]-3,4-dimethoxy-benzamide

The title compound 227 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 462 (M-1)

Compound 228 N-[2-(2-Bromo-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 228 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 421 (M-1)

Compound 229 N-[2-(2-Methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 229 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 356 (M-1)

Compound 230 N-[4,5-Dimethoxy-2-(2-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 230 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 476 (M-1)

Compound 231 N-[2-(2-Chloro-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

The title compound 231 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 436 (M-1)

Compound 232 3,4-Dimethoxy-N-[2-(6-methoxy-naphthalen-2-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 232 was produced in the same manner as in

Example 1.

Mass spectrometric value (ESI-MS) 482 (M-1)

Compound 233 N-[2-(Biphenyl-4-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

5 The title compound 233 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 478 (M-1)

Compound 234 N-[2-(4-Bromo-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

10 The title compound 234 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 480 (M-1)

Compound 235 N-[2-(3-Phenyl-allylidene-hydrazinocarbonyl)-phenyl]-benzamide

15 The title compound 235 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 368 (M-1)

Compound 236 2-Fluoro-N-[2-(2-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

20 The title compound 236 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 378 (M-1)

Compound 237 2-Fluoro-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

25 The title compound 237 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 378 (M-1)

Compound 238 2-Fluoro-N-[2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

30 The title compound 238 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 374 (M-1)

Compound 239 N-[2-(3-Tert-butyl-2-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-2-fluoro-benzamide

35 The title compound 239 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 432 (M-1)

Compound            240            3,4-Dimethoxy-N-[2-(4-nitro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

5        The title compound 240 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 447 (M-1)

Compound   241   N-[2-(4-Diethylamino-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

10       The title compound 241 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 473 (M-1)

Compound       242       N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-hydroxy-phenyl]-3,5-dimethoxy-benzamide

15       The title compound 242 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 436, 437 (M-1)

Compound 243 N-[4-Bromo-2-(pyridin-2-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

20       The title compound 243 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 483 (M-1)

Compound            244            N-[4-Chloro-2-(pyridin-2-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

25       The title compound 244 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 437 (M-1)

Compound            245            3,4-Dimethoxy-N-[2-pyridin-2-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

30       The title compound 245 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 403 (M-1)

Compound       246       N-[4-Chloro-2-(6-methyl-pyridin-2-ylmethylene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide

35       The title compound 246 was produced in the same manner as in Example 1.

Mass spectrometric value (ESI-MS) 451 (M-1)

Compound 247 3,4-Dimethoxy-N-[2-(6-methyl-pyridin-2-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 247 was produced in the same manner as in Example 1.

5 Mass spectrometric value (ESI-MS) 417 (M-1)

Compound 248 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-tert-butyl-benzamide

The title compound 248 was produced in the same manner as in Example 1.

10 Mass spectrometric value (ESI-MS) 490, 492 (M-1)

Compound 249 N-[2-(1-m-Toluyyl-ethylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 249 was produced in the same manner as in Example 1.

15 Mass spectrometric value (ESI-MS) 371 (M-1)

Compound 250 N-[4-Chloro-2-(1-m-toluyyl-ethylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 250 was produced in the same manner as in Example 1.

20 Mass spectrometric value (ESI-MS) 405 (M-1)

Compound 251 N-[2-(1-p-Toluyyl-ethylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 251 was produced in the same manner as in Example 1.

25 Mass spectrometric value (ESI-MS) 371 (M-1)

Compound 252 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-nicotinamide hydrochloride

The title compound 252 was produced in the same manner as in Example 3.

30 <sup>1</sup>H-NMR (MeOH-d<sub>4</sub>, 400 MHz): δ 9.21 - 9.25 (1H, m), 8.79 - 8.93 (2H, m), 8.34 - 8.39 (1H, m), 8.25 (1H, s), 8.01 (1H, d, J = 2.2 Hz), 8.00 - 8.15 (1H, m), 7.71 (1H, dd, J = 8.08 Hz, J = 2.20 Hz), 7.63 (2H, d, J = 8.32 Hz), 7.18 (2H, d, J = 8.08 Hz), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 437, 438 (M-1)

35 Compound 253 N-[2-(3-Methyl-benzylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide hydrochloride

The title compound 253 was produced in the same manner as in Example 3.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.96 - 8.99 (2H, m), 8.49 (1H, d, J = 8.08 Hz), 8.42 (2H, dd, J = 1.20 Hz, J = 5.60 Hz), 8.27 (1H, s), 7.85 (1H, dd, J = 1.20 Hz, J = 7.80 Hz), 7.51 - 7.61 (3H, m), 7.18 - 7.31 (3H, m), 2.30 (3H, s)

Mass spectrometric value (ESI-MS) 357 (M-1)

Compound 255 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 255 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 563 (M-1)

Compound 256 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 256 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 563 (M-1)

Compound 257 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 257 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 559 (M-1)

Compound 258 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 258 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 559 (M-1)

Compound 259 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 259 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 571 (M-1)

Compound 260 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 260 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 645, 647 (M-1)

Compound 261 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-hydroxy-ethylsulfanylmethyl)-benzamide

5 The title compound 261 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 530 (M-1)

Compound 262 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-hydroxy-ethylsulfanylmethyl)-benzamide

10 The title compound 262 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 530 (M-1)

Compound 263 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-hydroxy-ethylsulfanylmethyl)-benzamide

15 The title compound 263 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 524 (M-1)

Compound 264 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-hydroxy-ethylsulfanylmethyl)-benzamide

20 The title compound 264 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 526 (M-1)

Compound 265 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-hydroxy-ethylsulfanylmethyl)-benzamide

25 The title compound 265 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 540 (M-1)

Compound 266 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-hydroxy-ethylsulfanylmethyl)-benzamide

30 The title compound 266 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 612, 614 (M-1)

Compound 267 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

35 The title compound 267 was produced in the same manner as in Example 4.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.60 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 8.28 (1H, bs), 8.05 (1H, d, J = 2.2 Hz), 8.01 (1H, m), 7.86 (1H, m), 7.73 (1H, dd, J = 9.0 Hz, J = 2.2 Hz), 7.60 (2H, m), 7.52 (1H, m), 7.46 (1H, t, J = 7.7 Hz), 7.19 (1H, d, J = 7.8 Hz), 4.44 (2H, s), 2.30 (6H, s)

5 Mass spectrometric value (ESI-MS) 561 (M-1)

Compound 268 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 268 was produced in the same manner as in Example 4.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.38 (3H, s), 4.44 (2H, s), 7.26 (1H, d, J = 7.4 Hz), 7.46 (2H, m), 7.59 (1H, m), 7.66 (1H, dd, J = 9.0 Hz, J = 2.4 Hz), 7.72 (1H, m), 7.86 (2H, m), 7.97 - 8.05 (2H, m), 8.29 - 8.34 (2H, m), 8.57 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 547 (M-1)

15 Compound 269 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 269 was produced in the same manner as in Example 4.

20 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.48 - 2.53 (3H, m), 4.43 (2H, s), 7.27 - 7.82 (9H, m), 7.96 (3H, m), 8.57 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 549 (M-1)

Compound 270 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 270 was produced in the same manner as in Example 4.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 4.44 (2H, s), 7.20 (1H, m), 7.45 (1H, m), 7.59 (1H, m), 7.66 (1H, dd, J = 9.0 Hz, J = 2.3 Hz), 7.75 (1H, dd, J = 9.0 Hz, J = 2.3 Hz), 7.87 (2H, m), 7.99 - 8.06 (3H, m), 8.30 (1H, s), 8.36 (1H, s), 8.57 (1H, m)

30 Mass spectrometric value (ESI-MS) 553 (M-1)

Compound 271 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 271 was produced in the same manner as in Example 4.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 4.44 (2H, s), 7.19 (1H, m), 7.45 (2H, m), 7.59 - 7.77 (3H, m), 7.86 (2H, m), 7.97 - 8.01 (2H, m), 8.29 - 8.36 (2H,



m), 8.58 (1H, m)

Mass spectrometric value (ESI-MS) 553 (M-1)

Compound 272 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-

5 benzamide

The title compound 272 was produced in the same manner as in Example 4.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 4.44 (2H, s), 7.45 (1H, m), 7.59 (1H, m), 7.67 (1H, m), 7.76 (1H, dd, J = 9.0 Hz, J = 2.2 Hz), 7.85 (2H, m), 7.97 -  
10 8.06 (3H, m), 8.29 (1H, s), 8.39 (1H, s), 8.57 (1H, dd, J = 9.0 Hz, J = 1.7 Hz)

Mass spectrometric value (ESI-MS) 635 (M-1)

Compound 273 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(3-hydroxy-propylsulfanylmethyl)-

15 benzamide

The title compound 273 was produced in the same manner as in Example 4.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.76 (2H, m), 2.31 (3H, s), 2.32 (3H, s), 2.50 (2H, t, J = 7.0 Hz), 3.60 (2H, t, J = 6.3 Hz), 3.80 (2H, s), 7.20 (1H, d, J = 7.3 Hz), 7.52 (3H, m), 7.66 (1H, s), 7.74 (1H, dd, J = 9.0 Hz, J = 2.2 Hz), 7.96 (2H, d, J = 8.3 Hz), 8.05 (1H, d, J = 2.2 Hz), 8.30 (1H, s), 8.63 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 552 (M-1)

Compound 274 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(3-hydroxy-propylsulfanylmethyl)-benzamide

25 The title compound 274 was produced in the same manner as in Example 4.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.76 (2H, m), 2.39 (3H, s), 2.50 (2H, t, J = 7.3 Hz), 3.60 (2H, t, J = 6.1 Hz), 3.80 (2H, s), 7.27 (2H, d, J = 8.1 Hz), 7.52 (2H, d, J = 8.0 Hz), 7.74 (3H, m), 7.96 (2H, d, J = 8.1 Hz), 8.01 (1H, m), 8.33 (1H, s), 8.63 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 538 (M-1)

Compound 275 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(3-hydroxy-propylsulfanylmethyl)-benzamide

35 The title compound 275 was produced in the same manner as in Example 4.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.76 (2H, m), 2.40 (3H, s), 2.51 (2H, t, J = 7.1 Hz), 3.60 (2H, t, J = 6.3 Hz), 3.81 (2H, s), 7.25 - 7.35 (2H, m), 7.52 (2H, m), 7.63 (1H, m), 7.71 - 7.77 (2H, m), 7.96 (2H, d, J = 8.0 Hz), 8.06 (1H, s), 8.34 (1H, s), 8.62 (1H, m)

5 Mass spectrometric value (ESI-MS) 538 (M-1)

Compound 276 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 276 was produced in the same manner as in Example 4.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.76 (2H, m), 2.51 (2H, m), 3.60 (2H, m), 3.81 (2H, m), 7.19 (2H, m), 7.51 (2H, m), 7.75 - 8.06 (6H, m), 8.35 (1H, m), 8.60 (1H, m)

Mass spectrometric value (ESI-MS) 542 (M-1)

15 Compound 277 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 277 was produced in the same manner as in Example 4.

20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.76 (2H, m), 2.51 (2H, t, J = 7.3 Hz), 3.60 (2H, t, J = 6.4 Hz), 3.81 (2H, s), 7.19 (1H, m), 7.46 - 7.54 (3H, m), 7.60 (1H, m), 7.70 (1H, m), 7.77 (1H, dd, J = 9.1 Hz, J = 2.3 Hz), 7.96 (2H, m), 8.07 (1H, s), 8.35 (1H, s), 8.62 (1H, d, J = 9.1 Hz)

Mass spectrometric value (ESI-MS) 542 (M-1)

25 Compound 278 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 278 was produced in the same manner as in Example 4.

30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.76 (2H, m), 2.50 (2H, t, J = 7.3 Hz), 3.60 (2H, t, J = 6.3 Hz), 3.80 (2H, s), 7.52 (2H, d, J = 8.0 Hz), 7.69 (1H, d, J = 8.3 Hz), 7.76 (1H, dd, J = 8.8 Hz, J = 2.0 Hz), 7.95 (2H, d, J = 8.3 Hz), 8.05 - 8.07 (2H, m), 8.33 (1H, s), 8.39 (1H, s), 8.62 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 626 (M-1)

#### Example 5

35 Compound 279 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[(2-morpholin-4-yl-ethylamino)-methyl]-

benzamide

Methyl 2-amino-5-bromobenzoate (compound A) (3.0 g) was dissolved in anhydrous methylene chloride (40.0 ml). Subsequently, pyridine (2.1 ml) and 4-(chloromethyl)benzoyl chloride (compound B) (2.2 ml) were added to the solution at room temperature, and the mixture was stirred at that temperature for one hr. After the completion of the reaction, distilled water was added, followed by separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give methyl 5-bromo-2-[3-(chloromethyl)benzoyl]aminobenzoate as a useful intermediate (4.90 g, yield 100%).

Methyl 5-bromo-2-[3-(chloromethyl)benzoyl]aminobenzoate (500 mg) obtained by the above reaction was dissolved in anhydrous methylene chloride (3.0 ml), triethylamine (545  $\mu$ l) and 4-(2-aminoethyl)morpholine (compound B') (341  $\mu$ l) were added to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography eluted with a chloroform methanol system to give methyl 5-bromo-2-[(3-[(2-morpholinoethyl)amino]methyl)benzoyl]amino]benzoate as a useful intermediate (306 mg, yield 50%).

Methyl 5-bromo-2-[(3-[(2-morpholinoethyl)amino]methyl)benzoyl]amino]benzoate obtained by the above reaction was dissolved in ethanol (5.0 ml), hydrazine monohydrate (650  $\mu$ l) was added to the solution, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give N-(4-bromo-2-hydrazinocarbonyl-phenyl)-3-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide as a hydrazine compound (220 mg, crude yield 75%).

N-(4-Bromo-2-hydrazinocarbonyl-phenyl)-3-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide (25 mg) was dissolved in anhydrous

toluene (1.0 ml), a catalytic amount of acetic acid and 3,4-dimethylbenzaldehyde (compound C) (10.0  $\mu$ l) were added to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, the product was purified by column chromatography eluted with a chloroform methanol system to give the title compound 279 (21.1 mg, yield 67%).  
<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz):  $\delta$  2.31 (3H, s), 2.32 (3H, s), 2.44 (4H, m), 2.60 (2H, t, J = 6.1 Hz), 2.97 (2H, t, J = 6.1 Hz), 3.65 (4H, t, J = 4.6 Hz), 4.15 (2H, s), 7.20 (1H, d, J = 7.8 Hz), 7.54 (1H, m), 7.59 - 7.70 (3H, m), 7.76 (1H, dd, J = 9.0 Hz, J = 2.2 Hz), 8.30 (2H, m), 8.07 (1H, d, J = 2.2 Hz), 8.32 (1H, s), 8.64 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 594 (M+1)

Compound 280 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethyl)-methyl-amino]-methyl-benzamide

The title compound 280 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz):  $\delta$  1.12 (6H, t, J = 7.1 Hz), 2.27 (6H, s), 2.28 (3H, s), 2.60 (2H, t, J = 7.3 Hz), 2.77 (4H, q, J = 7.3 Hz), 2.88 (2H, t, J = 7.3 Hz), 3.63 (2H, s), 7.16 (1H, d, J = 7.8 Hz), 7.50 (3H, m), 7.61 (1H, s), 7.70 (1H, dd, J = 9.0 Hz, J = 2.2 Hz), 7.97 (2H, d, J = 8.3 Hz), 8.02 (1H, d, J = 2.2 Hz), 8.30 (1H, s), 8.61 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 594 (M+1)

Compound 281 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide

The title compound 281 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz):  $\delta$  2.29 (3H, s), 2.30 (3H, s), 2.43 (4H, m), 2.54 (2H, t, J = 6.0 Hz), 2.72 (2H, t, J = 6.0 Hz), 3.70 (4H, t, J = 4.6 Hz), 3.89 (2H, s), 7.18 (1H, d, J = 7.8 Hz), 7.44 - 7.70 (6H, m), 7.99 (2H, d, J = 7.8 Hz), 8.31 (1H, s), 8.55 (1H, d, J = 8.3 Hz)

Mass spectrometric value (ESI-MS) 592 (M+1)

Compound 282 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide

The title compound 282 was produced in the same manner as in

## Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.39 (3H, s), 2.43 (4H, m), 2.53 (2H, t, J = 5.9 Hz), 2.72 (2H, t, J = 5.9 Hz), 3.70 (4H, t, J = 4.6 Hz), 3.89 (2H, s), 7.23 (2H, d, J = 8.0 Hz), 7.45 (2H, d, J = 8.0 Hz), 7.56 (1H, m), 7.70 (3H, m), 7.99 (2H, m), 8.34 (1H, s), 8.56 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 576 (M-1)

Compound 283 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide

The title compound 283 was produced in the same manner as in

## Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.38 (3H, s), 2.43 (4H, m), 2.52 (2H, t, J = 6.0 Hz), 2.70 (2H, t, J = 6.0 Hz), 3.70 (4H, t, J = 4.4 Hz), 3.88 (2H, s), 7.22 - 7.32 (2H, m), 7.44 (2H, d, J = 8.3 Hz), 7.52 (2H, m), 7.69 (2H, s), 8.00 (2H, d, J = 7.8 Hz), 8.42 (2H, m)

Mass spectrometric value (ESI-MS) 578 (M-1)

Compound 284 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide

The title compound 284 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.43 (4H, m), 2.52 (2H, t, J = 6.0 Hz), 2.70 (2H, t, J = 6.0 Hz), 3.70 (4H, t, J = 4.5 Hz), 3.89 (2H, s), 7.12 (2H, m), 7.45 (2H, d, J = 8.3 Hz), 7.54 (1H, m), 7.67 (1H, m), 7.82 (2H, m), 8.00 (2H, d, J = 7.8 Hz), 8.39 (1H, s), 8.48 (1H, m)

Mass spectrometric value (ESI-MS) 582 (M-1)

Compound 285 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 285 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.2 Hz), 2.21 (3H, s), 2.33 (3H, s), 2.51 - 2.66 (8H, m), 3.55 (2H, s), 7.18 (2H, d, J = 8.0 Hz), 7.43 (3H, m), 7.66 (2H, d, J = 8.0 Hz), 7.74 (1H, m), 7.98 (2H, d, J = 8.0 Hz), 8.36 (1H, d, J = 9.0 Hz), 8.49 (1H, s)

Mass spectrometric value (ESI-MS) 576 (M-1)

Compound 286 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 286 was produced in the same manner as in

Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 2.23 (3H, s), 2.40 (3H, s), 2.52 - 2.66 (8H, m), 3.59 (2H, s), 7.24 - 7.33 (2H, m), 7.45 (2H, d, J = 8.3 Hz), 7.56 (2H, m), 7.70 (2H, m), 8.00 (2H, d, J = 7.6 Hz), 8.38 (1H, s), 8.50 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 578 (M-1)

Compound 287 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 287 was produced in the same manner as in

Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 2.23 (3H, s), 2.54 - 2.66 (8H, m), 3.59 (2H, s), 7.12 (2H, m), 7.45 (2H, d, J = 8.3 Hz), 7.54 (1H, m), 7.68 (1H, s), 7.83 (2H, m), 7.99 (2H, d, J = 7.8 Hz), 8.42 (1H, s), 8.47 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 580 (M-1)

Compound 288 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 288 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 2.22 (3H, s), 2.52 - 2.66 (8H, m), 3.58 (2H, s), 7.10 (1H, m), 7.34 - 7.46 (4H, m), 7.55 (2H, m), 7.68 (1H, s), 7.99 (2H, d, J = 7.8 Hz), 8.29 (1H, d, J = 8.8 Hz), 8.52 (1H, s)

Mass spectrometric value (ESI-MS) 582 (M-1)

Compound 289 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 289 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 2.23 (3H, s), 2.53 - 2.66 (8H, m), 3.60 (2H, s), 7.48 (3H, m), 7.58 (1H, d, J = 8.3 Hz), 7.67 (1H, s), 7.98 - 8.07 (4H, m), 8.56 (1H, m), 8.52 (1H, m)

Mass spectrometric value (ESI-MS) 664 (M-1)

Compound 290 N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 290 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 2.21 (3H, s), 2.51 - 2.66 (8H, m), 3.56 (2H, s), 3.80 (3H, s), 6.89 (2H, d, J = 8.8 Hz), 7.43 (3H, m), 7.71 (3H, m), 7.98 (2H, d, J = 8.0 Hz), 8.38 (1H, d, J = 9.0 Hz), 8.45 (1H, s)

Mass spectrometric value (ESI-MS) 594 (M-1)

Compound 291 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 291 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.1 Hz), 2.21 (3H, s), 2.51 - 2.65 (8H, m), 3.56 (2H, s), 3.84 (3H, s), 6.94 (1H, m), 7.27 - 7.48 (6H, m), 7.75 (1H, s), 7.97 (2H, d, J = 7.8 Hz), 8.41 (1H, d, J = 9.0 Hz), 8.47 (1H, s)

Mass spectrometric value (ESI-MS) 592 (M-1)

Compound 292 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 292 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (6H, t, J = 7.2 Hz), 2.29 (3H, s), 2.30 (3H, s), 2.57 - 2.73 (8H, m), 3.87 (3H, s), 7.18 (1H, d, J = 7.8 Hz), 7.43 - 7.73 (6H, m), 7.99 (2H, d, J = 7.8 Hz), 8.31 (1H, s), 8.56 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 576 (M-1)

Compound 293 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 293 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (6H, t, J = 7.1 Hz), 2.39 (3H, s), 2.56 - 2.73 (8H, m), 3.87 (2H, s), 7.22 - 7.27 (2H, m), 7.44 (2H, d, J = 8.3 Hz), 7.57 - 7.71 (4H, m), 7.99 (2H, m), 8.34 (1H, s), 8.59 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 562 (M-1)

Compound 294 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-

phenyl]-4-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 294 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.1 Hz), 2.39 (3H, s), 2.52 - 2.70 (8H, m), 3.87 (2H, s), 7.23 - 7.33 (2H, m), 7.45 (2H, d, J = 8.3 Hz), 7.55 (2H, m), 7.70 (2H, m), 8.00 (2H, d, J = 7.8 Hz), 8.38 (1H, s), 8.51 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 562 (M-1)

Compound 295 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 295 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (6H, t, J = 7.1 Hz), 2.55 - 2.72 (8H, m), 3.87 (2H, s), 7.12 (2H, m), 7.45 (2H, d, J = 8.1 Hz), 7.56 - 7.82 (4H, m), 7.99 (2H, d, J = 7.6 Hz), 8.39 (1H, s), 8.55 (1H, d, J = 8.6 Hz)

Mass spectrometric value (ESI-MS) 568 (M-1)

Compound 296 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 296 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 2.53 - 2.71 (8H, m), 3.88 (2H, s), 7.13 (1H, m), 7.37 - 7.71 (7H, m), 7.99 (2H, d, J = 7.6 Hz), 8.42 (1H, s), 8.49 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 568 (M-1)

Compound 297 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 297 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (3H, t, J = 7.1 Hz), 1.24 (3H, m), 2.53 - 2.75 (6H, m), 3.72 (2H, m), 3.87 (2H, s), 7.46 (2H, d, J = 7.8 Hz), 7.56 (3H, m), 7.73 (1H, m), 7.98 (3H, m), 8.06 (1H, s), 8.48 (1H, d, J = 8.3 Hz)

Mass spectrometric value (ESI-MS) 650 (M-1)

Compound 298 N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethylamino)-methyl]-benzamide



The title compound 298 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (6H, t, J = 7.2 Hz), 2.55 - 2.72 (8H, m), 3.85 (3H, s), 3.87 (2H, s), 6.93 (2H, d, J = 8.8 Hz), 7.44 (2H, d, J = 8.0 Hz), 7.58 (1H, m), 7.75 (3H, m), 7.99 (2H, d, J = 7.6 Hz), 8.31 (1H, s), 8.60 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 578 (M-1)

Compound 299 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 299 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.1 Hz), 2.52 - 2.70 (8H, m), 3.86 (3H, s), 3.87 (2H, s), 6.97 (1H, m), 7.29 - 7.45 (5H, m), 7.56 (1H, s), 7.73 (1H, m), 7.99 (2H, d, J = 8.0 Hz), 8.39 (1H, s), 8.53 (1H, m)

Mass spectrometric value (ESI-MS) 578 (M-1)

Compound 300 4-({3-[Bis-(2-hydroxy-ethyl)-amino]-propylamino}-methyl)-N-[4-bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 300 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.73 (2H, m), 2.29 (3H, s), 2.30 (3H, s), 2.61 (6H, m), 2.73 (2H, t, J = 6.8 Hz), 3.60 (4H, m), 3.89 (2H, s), 7.18 (1H, d, J = 7.6 Hz), 7.53 (3H, m), 7.64 (1H, s), 7.71 (1H, dd, J = 8.8 Hz, J = 2.4 Hz), 7.98 - 8.05 (3H, m), 8.29 (1H, s), 8.60 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 626 (M+1)

Compound 301 4-({3-[Bis-(2-hydroxy-ethyl)-amino]-propylamino}-methyl)-N-[4-bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 301 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.74 (2H, m), 2.63 (6H, m), 2.75 (2H, m), 3.61 (4H, m), 3.90 (2H, s), 7.17 (1H, m), 7.45 (1H, m), 7.33 - 7.72 (5H, m), 7.89 (2H, m), 8.09 (1H, d, J = 2.4 Hz), 8.35 (1H, s), 8.60 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 612 (M-1)

Compound 302 4- ({3-[Bis-(2-hydroxy-ethyl)-amino]-propylamino}-methyl)-N-[4-bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 302 was produced in the same manner as in

5 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.75 (2H, m), 2.63 (6H, m), 2.78 (2H, m), 3.61 (4H, m), 3.91 (2H, s), 7.54 (2H, d, J = 8.0 Hz), 7.66 (2H, m), 8.00 (3H, m), 8.11 (1H, d, J = 2.4 Hz), 8.32 (1H, s), 8.38 (1H, s), 8.58 (1H, d, J = 8.8 Hz)

10 Mass spectrometric value (ESI-MS) 696 (M-1)

Compound 303 4-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 303 was produced in the same manner as in Example 5.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.11 (3H, s), 1.13 (3H, s), 2.29 (6H, m), 2.45 - 2.65 (4H, m), 3.60 - 3.99 (4H, m), 7.18 (1H, d, J = 7.8 Hz), 7.47 (3H, m), 7.55 (1H, m), 7.64 (1H, s), 7.70 (1H, s), 8.01 (2H, d, J = 7.6 Hz), 8.31 (1H, s), 8.52 (1H, d, J = 8.6 Hz)

Mass spectrometric value (ESI-MS) 595 (M-1)

20 Compound 304 4-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 304 was produced in the same manner as in Example 5.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.11 (6H, m), 2.34 (3H, s), 2.42 - 2.62 (4H, m), 3.59 - 3.93 (4H, m), 7.19 (2H, d, J = 8.0 Hz), 7.44 (3H, m), 7.68 (3H, m), 7.98 (2H, d, J = 7.8 Hz), 8.41 (2H, m)

Mass spectrometric value (ESI-MS) 579 (M-1)

30 Compound 305 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-morpholin-4-yl-2-oxo-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 305 was produced in the same manner as in Example 5.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.26 (3H, s), 2.28 (3H, s), 2.49 (8H, m), 3.16 (2H, s), 3.49 - 3.70 (10H, m), 7.15 (1H, d, J = 7.8 Hz), 7.40 - 7.52 (4H, m), 7.62 (1H, s), 7.73 (1H, s), 7.96 (2H, d, J = 7.8 Hz), 8.38 (1H, s), 8.49 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 673 (M-1)

Compound 306 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-morpholin-4-yl-2-oxo-ethyl)-piperazin-1-ylmethyl]-benzamide

5 The title compound 306 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.50 (8H, m), 3.15 (2H, s), 3.49 - 3.75 (10H, m), 7.42 (2H, m), 7.54 (2H, m), 7.71 (1H, s), 7.99 (4H, m), 8.44 (1H, d, J = 8.5 Hz), 8.51 (1H, s)

10 Mass spectrometric value (ESI-MS) 747 (M-1)

Compound 307 N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-morpholin-4-yl-2-oxo-ethyl)-piperazin-1-ylmethyl]-benzamide

15 The title compound 307 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.48 (8H, m), 3.16 (2H, s), 3.48 - 3.75 (10H, m), 3.81 (3H, s), 6.89 (2H, d, J = 8.8 Hz), 7.39 (2H, d, J = 8.1 Hz), 7.50 (1H, m), 7.69 - 7.53 (3H, m), 7.96 (2H, d, J = 8.0 Hz), 8.40 (1H, s), 8.49 (1H, d, J = 9.0 Hz)

20 Mass spectrometric value (ESI-MS) 675 (M-1)

Compound 308 4-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 308 was produced in the same manner as in Example 5.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, m), 1.65 (6H, m), 1.82 (2H, m), 1.94 (2H, t, J = 11.2 Hz), 2.24 (3H, s), 2.26 (3H, s), 2.55 - 2.68 (5H, m), 2.87 (2H, d, J = 11.5 Hz), 3.47 (2H, s), 7.13 (1H, d, J = 7.8 Hz), 7.36 (2H, d, J = 8.0 Hz), 7.43 (1H, d, J = 7.8 Hz), 7.50 (1H, d, J = 8.8 Hz), 7.59 (1H, s), 7.88 (1H, s), 7.96 (2H, d, J = 8.0 Hz), 8.43 (1H, s), 8.53 (1H, d, J = 9.0 Hz)

30 Mass spectrometric value (ESI-MS) 630 (M-1)

Compound 309 4-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

35 The title compound 309 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, m), 1.59 - 1.73 (6H, m), 1.82 (2H,

m), 1.93 (2H, m), 2.34 (3H, s), 2.57 - 2.69 (5H, m), 2.87 (2H, d, J = 11.5 Hz), 3.47 (2H, s), 7.19 (2H, d, J = 8.0 Hz), 7.36 (2H, d, J = 8.0 Hz), 7.51 (1H, m), 7.66 (2H, d, J = 8.0 Hz), 7.87 (1H, s), 7.96 (2H, d, J = 8.0 Hz), 8.45 (1H, s), 8.53 (1H, d, J = 9.0 Hz)

5 Mass spectrometric value (ESI-MS) 614 (M-1)

Compound 310 4-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 310 was produced in the same manner as in Example 5.

10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, m), 1.59 - 1.74 (6H, m), 1.83 (2H, m), 1.94 (2H, m), 2.35 (3H, s), 2.59 - 2.75 (5H, m), 2.87 (2H, d, J = 11.5 Hz), 3.47 (2H, s), 7.19 (1H, d, J = 7.6 Hz), 7.26 (1H, m), 7.36 (2H, d, J = 8.1 Hz), 7.51 (2H, m), 7.64 (1H, s), 7.90 (1H, s), 7.95 (2H, d, J = 8.1 Hz), 8.46 (1H, s), 8.54 (1H, d, J = 8.8 Hz)

15 Mass spectrometric value (ESI-MS) 614 (M-1)

Compound 311 4-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 311 was produced in the same manner as in Example 5.

20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, m), 1.60 - 1.75 (6H, m), 1.83 (2H, m), 1.93 (2H, m), 2.56 - 2.74 (5H, m), 2.87 (2H, d, J = 11.2 Hz), 3.47 (2H, s), 7.06 (2H, t, J = 8.5 Hz), 7.36 (2H, d, J = 8.1 Hz), 7.50 (1H, d, J = 8.3 Hz), 7.74 (2H, m), 7.87 - 8.00 (3H, m), 8.50 (2H, m)

Mass spectrometric value (ESI-MS) 620 (M-1)

25 Compound 312 4-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 312 was produced in the same manner as in Example 5.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, m), 1.59 - 1.75 (6H, m), 1.83 (2H, m), 1.94 (2H, m), 2.50 - 2.70 (5H, m), 2.87 (2H, d, J = 11.2 Hz), 3.48 (2H, s), 7.08 (1H, m), 7.30 - 7.40 (3H, m), 7.50 (3H, m), 7.87 (1H, s), 7.95 (2H, d, J = 8.1 Hz), 8.49 (2H, m)

Mass spectrometric value (ESI-MS) 620 (M-1)

35 Compound 313 4-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 313 was produced in the same manner as in

## Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.50 (2H, m), 1.60 - 1.80 (6H, m), 1.82 - 1.96 (4H, m), 2.62 - 2.78 (5H, m), 2.86 (2H, d, J = 11.0 Hz), 3.46 (2H, s), 7.35 (2H, d, J = 8.0 Hz), 7.51 (2H, d, J = 8.6 Hz), 7.94 (5H, m), 8.50 (1H, d, J = 9.0 Hz), 8.57 (1H, s)

Mass spectrometric value (ESI-MS) 702 (M-1)

Compound 314 4-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 314 was produced in the same manner as in

## Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, m), 1.59 - 1.75 (6H, m), 1.83 (2H, m), 1.94 (2H, m), 2.60 - 2.76 (5H, m), 2.87 (2H, d, J = 11.5 Hz), 3.46 (2H, s), 3.79 (3H, s), 6.88 (2H, d, J = 8.6 Hz), 7.35 (2H, d, J = 8.0 Hz), 7.52 (1H, d, J = 9.0 Hz), 7.68 (2H, d, J = 8.6 Hz), 7.90 (1H, s), 7.95 (2H, d, J = 8.0 Hz), 8.41 (1H, s), 8.55 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 632 (M-1)

Compound 315 4-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 315 was produced in the same manner as in

## Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, m), 1.58 - 1.80 (6H, m), 1.83 (2H, m), 1.92 (2H, m), 2.59 - 2.75 (5H, m), 2.85 (2H, m), 3.45 (2H, s), 3.82 (3H, s), 6.91 (1H, d, J = 6.8 Hz), 7.20 - 7.40 (5H, m), 7.52 (1H, d, J = 9.0 Hz), 7.94 (3H, m), 8.49 (1H, s), 8.56 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 632 (M-1)

Compound 316 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 316 was produced in the same manner as in

## Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.29 (3H, s), 2.30 (3H, s), 2.48 - 2.65 (10H, m), 3.58 (2H, s), 3.64 (2H, t, J = 5.2 Hz), 7.18 (1H, d, J = 7.8 Hz), 7.46 (3H, m), 7.57 (1H, d, J = 9.0 Hz), 7.64 (1H, s), 7.70 (1H, s), 7.98 (2H, d, J = 7.8 Hz), 8.29 (1H, s), 8.56 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 592 (M-1)

Compound 317 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-

phenyl]-4-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 317 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.40 (3H, s), 2.54 - 2.75 (10H, m), 3.60 (2H, s), 3.68 (2H, m), 7.25 (2H, m), 7.45 (2H, d, J = 8.0 Hz), 7.62 (1H, m), 7.70 (3H, m), 7.98 (2H, d, J = 8.0 Hz), 8.28 (1H, s), 8.64 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 576 (M-1)

Compound 318 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 318 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.40 (3H, s), 2.50 - 2.67 (10H, m), 3.58 (2H, s), 3.64 (2H, t, J = 5.3 Hz), 7.24 (1H, m), 7.32 (1H, m), 7.45 (2H, d, J = 8.0 Hz), 7.56 (2H, m), 7.70 (2H, m), 7.99 (2H, d, J = 8.0 Hz), 8.34 (1H, s), 8.53 (1H, d, J = 9.2 Hz)

Mass spectrometric value (ESI-MS) 578 (M-1)

Compound 319 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 319 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.48 - 2.70 (10H, m), 3.58 (2H, s), 3.65 (2H, t, J = 5.2 Hz), 7.12 (2H, m), 7.45 (2H, d, J = 8.0 Hz), 7.53 (1H, m), 7.68 (1H, s), 7.82 (2H, m), 7.98 (2H, d, J = 8.0 Hz), 8.40 (1H, s), 8.46 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 580 (M-1)

Compound 320 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 320 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.50 - 2.75 (10H, m), 3.60 (2H, s), 3.69 (2H, t, J = 5.2 Hz), 7.14 (1H, m), 7.36 - 7.72 (7H, m), 7.98 (2H, d, J = 8.0 Hz), 8.39 (1H, s), 8.50 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 582 (M-1)

Compound 321 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-

benzamide

The title compound 321 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.50 - 2.72 (10H, m), 3.60 (2H, s), 3.66 (2H, t, J = 5.2 Hz), 7.15 (1H, m), 7.43 - 7.72 (6H, m), 7.99 (2H, d, J = 8.0 Hz), 8.07 (1H, s), 8.46 (1H, m)

Mass spectrometric value (ESI-MS) 664 (M-1)

Compound                      322                      N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-

10 benzamide

The title compound 322 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.50 - 2.70 (10H, m), 3.58 (2H, s), 3.65 (2H, t, J = 5.2 Hz), 3.85 (3H, s), 6.94 (2H, d, J = 8.8 Hz), 7.44 (2H, d, J = 8.3 Hz), 7.59 (1H, m), 7.69 - 7.80 (3H, m), 7.98 (2H, d, J = 7, 8 Hz), 8.28 (1H, s), 8.60 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 594 (M-1)

Compound                      323                      N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-

20 benzamide

The title compound 323 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.45 - 2.65 (10H, m), 3.57 (2H, s), 3.63 (2H, t, J = 5.4 Hz), 3.86 (3H, s), 6.98 (1H, m), 7.17 (1H, m), 7.22 - 7.58 (5H, m), 7.71 (1H, s), 7.97 (2H, d, J = 7.8 Hz), 8.38 (1H, s), 8.50 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 592 (M-1)

Compound                      324                      N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxy-piperidin-1-ylmethyl)-

30 benzamide

The title compound 324 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.61 (2H, m), 1.86 - 2.24 (4H, m), 2.89 (3H, s), 2.30 (3H, s), 2.75 (2H, m), 3.57 (2H, s), 3.71 (1H, m), 7.18 (1H, d, J = 7.8 Hz), 7.45 (3H, m), 7.55 (1H, m), 7.64 (1H, s), 7.69 (1H, s), 7.98 (2H, d, J = 7.6 Hz), 8.30 (1H, s), 8.54 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 563 (M-1)

Compound 325 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 325 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.60 (2H, m), 1.89 (2H, m), 2.17 (2H, m), 2.39 (3H, s), 2.74 (2H, m), 3.56 (2H, m), 3.71 (1H, s), 7.15 - 7.27 (2H, m), 7.44 (2H, d, J = 8.0 Hz), 7.56 (1H, m), 7.69 (3H, m), 7.98 (2H, d, J = 8.0 Hz), 8.32 (1H, s), 8.55 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 549 (M-1)

Compound 326 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 326 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.60 (2H, m), 1.90 (2H, m), 2.17 (2H, m), 2.40 (3H, s), 2.74 (2H, m), 3.56 (2H, m), 3.71 (1H, m), 7.24 - 7.34 (2H, m), 7.45 (2H, m), 7.58 (2H, m), 7.70 (2H, m), 7.98 (2H, d, J = 7.8 Hz), 8.31 (1H, s), 8.57 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 547 (M-1)

Compound 327 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 327 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.59 (2H, m), 1.89 (2H, m), 2.17 (2H, m), 2.74 (2H, m), 3.56 (2H, s), 3.72 (1H, m), 7.13 (2H, m), 7.45 (2H, d, J = 8.0 Hz), 7.56 (1H, m), 7.66 (1H, s), 7.82 (2H, m), 7.98 (2H, d, J = 8.0 Hz), 8.36 (1H, s), 8.51 (1H, d, J = 8.0 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 328 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 328 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.65 (2H, m), 1.93 (2H, m), 2.30 (2H, m), 2.80 (2H, m), 3.65 (2H, s), 3.75 (1H, m), 7.15 (1H, m), 7.26 - 7.69 (7H, m), 7.99 (2H, d, J = 7.8 Hz), 8.35 (1H, s), 8.54 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)



Compound 329 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 329 was produced in the same manner as in  
5 Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.58 (2H, m), 1.91 (2H, m), 2.38 (2H, m), 2.75 (2H, m), 3.58 (2H, s), 3.71 (1H, m), 7.16 (1H, m), 7.47 (2H, d, J = 8.1 Hz), 7.52 - 7.75 (4H, m), 7.98 (2H, d, J = 8.1 Hz), 8.24 (1H, s), 8.58 (1H, m)

10 Mass spectrometric value (ESI-MS) 635 (M-1)

Compound 330 N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 330 was produced in the same manner as in  
15 Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.62 (2H, m), 1.90 (2H, m), 2.20 (2H, m), 2.75 (2H, m), 3.59 (2H, s), 3.72 (1H, m), 3.86 (3H, s), 6.95 (2H, d, J = 8.8 Hz), 7.45 (2H, d, J = 8.0 Hz), 7.62 - 7.80 (4H, m), 7.98 (2H, m), 8.21 (1H, s), 8.70 (1H, m)

20 Mass spectrometric value (ESI-MS) 565 (M-1)

Compound 331 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 331 was produced in the same manner as in  
25 Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.60 (2H, m), 1.90 (2H, m), 2.17 (2H, m), 2.75 (2H, m), 2.57 (2H, s), 2.72 (1H, m), 3.87 (3H, s), 6.99 (1H, m), 7.25 - 7.77 (7H, m), 7.97 (2H, d, J = 7.5 Hz), 8.30 (1H, s), 8.63 (1H, d, J = 8.6 Hz)

30 Mass spectrometric value (ESI-MS) 563 (M-1)

Compound 332 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 332 was produced in the same manner as in  
35 Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.25 - 1.76 (5H, m), 2.03 (2H, m), 2.28 (3H,

s), 2.29 (3H, s), 2.91 (2H, m), 3.50 (2H, d, J = 6.3 Hz), 3.58 (2H, s), 7.17 (1H, m), 7.41 - 7.72 (6H, m), 7.98 (2H, d, J = 8.0 Hz), 8.32 (1H, s), 8.53 (1H, d, J = 8.5 Hz)

Mass spectrometric value (ESI-MS) 575 (M-1)

- 5 Compound 333 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 333 was produced in the same manner as in Example 5.

10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.20 - 1.76 (5H, m), 2.04 (2H, m), 2.39 (3H, s), 2.93 (2H, m), 3.50 (2H, d, J = 6.4 Hz), 3.60 (2H, s), 7.24 (2H, m), 7.42 - 7.76 (6H, m), 7.98 (2H, d, J = 7.8 Hz), 8.33 (1H, s), 8.58 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 561 (M-1)

- 15 Compound 334 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 334 was produced in the same manner as in Example 5.

20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.20 - 2.15 (7H, m), 2.38 (3H, s), 2.93 (2H, m), 3.40 - 3.65 (4H, m), 7.20 - 7.32 (1H, m), 7.40 - 7.70 (6H, m), 8.27 (1H, s), 8.65 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 563 (M-1)

- Compound 335 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

25 The title compound 335 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.20 - 1.40 (5H, m), 1.72 (2H, m), 2.93 (2H, m), 3.47 - 3.65 (4H, m), 7.12 (2H, m), 7.40 - 7.88 (6H, m), 7.98 (2H, d, J = 8.5 Hz), 8.47 (1H, s), 8.54 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 567 (M-1)

- 30 Compound 336 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 336 was produced in the same manner as in Example 5.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.20 - 1.80 (5H, m), 2.05 (2H, m), 2.93 (2H, m), 3.42 - 3.65 (4H, m), 7.12 (1H, m), 7.24 - 7.66 (6H, m), 7.82 (1H, s), 7.97 (2H, d, J = 8.3 Hz), 8.30 (1H, s), 8.64 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 565 (M-1)

Compound 337 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

5 The title compound 337 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.20 - 2.22 (7H, m), 2.92 (2H, m), 3.39 - 3.65 (4H, m), 7.14 - 8.10 (9H, m), 8.32 (1H, s), 8.64 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 649 (M-1)

10 Compound 338 N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 338 was produced in the same manner as in Example 5.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.20 - 1.76 (5H, m), 2.03 (2H, m), 2.91 (2H, m), 3.46 - 3.64 (4H, m), 3.84 (3H, s), 6.93 (2H, m), 7.41 - 7.80 (6H, m), 7.97 (2H, d, J = 7.8 Hz), 8.32 (1H, s), 8.55 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 579 (M-1)

20 Compound 339 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 339 was produced in the same manner as in Example 5.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.20 - 2.25 (7H, m), 2.95 (2H, m), 3.45 - 3.67 (4H, m), 3.87 (3H, s), 6.80 - 7.80 (8H, m), 7.95 (2H, m), 8.25 (1H, s), 8.65 (1H, m)

Mass spectrometric value (ESI-MS) 577 (M-1)

30 Compound 340 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperidin-1-ylmethyl]-benzamide

The title compound 340 was produced in the same manner as in Example 5.

35 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 1.15 (2H, m), 1.35 (3H, m), 1.61 (2H, m), 1.92 (2H, m), 2.27 (3H, s), 2.29 (3H, s), 2.77 (2H, m), 3.42 (2H, m), 3.52 (2H, s), 7.24 (1H, d, J = 7.8 Hz), 7.48 (3H, m), 7.55 (1H, s), 7.80 (1H, dd, J = 9.0 Hz, J = 2.4 Hz), 7.88 (2H, d, J = 8.0 Hz), 8.09 (1H, d, J =

2.4 Hz), 8.38 (1H, s), 8.52 (1H, d, J = 9.0 Hz)

Mass spectrometric value (ESI-MS) 589 (M-1)

### Example 6

Compound 341 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazole-3-sulfinylmethyl)-benzamide

Compound 271: N-[4-bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide (100 mg) produced in the same manner as in Example 5 was dissolved in methylene chloride (5 ml), 3-chloro-peroxybenzoic acid (32 mg) was added to the solution, and the mixture was stirred at room temperature for 2 hr. The resultant crystals were filtered and were washed with methylene chloride and hexane to give the title compound 341 (76 mg, yield 70%).

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 4.65 (2H, m), 7.29 (1H, m), 7.53 (4H, m), 7.83 (3H, m), 8.08 (1H, d, J = 2.0 Hz), 8.43 (2H, m), 8.83 (1H, s), 11.72 (1H, s)

Mass spectrometric value (ESI-MS) 569 (M-1)

Compound 342 3-[[2-(Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

The title compound 342 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.07 (6H, m), 2.30 (12H, m), 2.56 (8H, m), 3.61 (2H, s), 7.18 (1H, d, J = 7.6 Hz), 7.30 - 7.60 (6H, m), 7.93 (1H, d, J = 7.6 Hz), 8.01 (1H, s)

Mass spectrometric value (ESI-MS) 532 (M-1)

Compound 343 3-[[2-(Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-methyl-2-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 343 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (6H, t, J = 7.1 Hz), 2.26 (3H, s), 2.31 (3H, s), 2.39 (3H, s), 2.51 - 2.80 (8H, m), 3.60 (2H, s), 7.21 (2H, d, J = 7.6 Hz), 7.30 - 7.80 (6H, m), 7.93 (1H, d, J = 7.6 Hz), 8.00 (1H, s)

Mass spectrometric value (ESI-MS) 518 (M-1)

Compound 344 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-

hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-[[2-(diethylamino-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 344 was produced in the same manner as in Example 5.

5 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.2 Hz), 2.25 (3H, s), 2.27 (3H, s), 2.52 - 2.70 (8H, m), 3.60 (2H, s), 7.35 - 7.60 (5H, m), 7.80 (1H, m), 7.92 (1H, d, J = 7.6 Hz), 8.00 (2H, d, J = 3.9 Hz)

Mass spectrometric value (ESI-MS) 606 (M-1)

10 Compound 345 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

The title compound 345 was produced in the same manner as in Example 5.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.44 (2H, m), 1.50 - 2.10 (12H, m), 2.30 (10H, m), 2.57 (2H, m), 2.96 (2H, d, J = 11.7 Hz), 3.56 (2H, s), 7.17 (1H, d, J = 7.6 Hz), 7.30 - 7.55 (6H, m), 7.92 (1H, d, J = 7.6 Hz), 7.99 (1H, s)

Mass spectrometric value (ESI-MS) 570 (M-1)

Compound 346 N-[4-Bromo-2-(3-phenyl-allylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

20 The title compound 346 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 9.15 (1H, s), 8.73 - 8.78 (1H, m), 8.54 (1H, d, J = 8.8 Hz), 8.26 - 8.42 (1H, m), 8.17 (1H, d, J = 6.6 Hz), 8.06 (1H, d, J = 2.2 Hz), 7.77 (1H, dd, J = 8.8 Hz, J = 2.2 Hz), 7.55 - 7.64 (3H, m), 7.30 - 7.42 (3H, m), 7.05 - 7.10 (2H, m)

25 Mass spectrometric value (ESI-MS) 447 (M-1)

Compound 347 N-[4-Bromo-2-(3-phenyl-allylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

The title compound 347 was produced in the same manner as in Example 1.

30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.75 - 8.00 (2H, m), 8.57 (1H, d, J = 9.0 Hz), 8.28 (1H, d, J = 7.3 Hz), 8.05 - 8.08 (1H, m), 7.92 - 7.95 (2H, m), 7.78 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.57 (2H, d, J = 7.8 Hz), 7.30 - 7.42 (3, m), 7.05 - 7.10 (2H, m)

Mass spectrometric value (ESI-MS) 447 (M-1)

35 Compound 348 N-[4-Chloro-2-(3-phenyl-allylidene-hydrazinocarbonyl)-phenyl]-nicotinamide

The title compound 348 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 9.14 - 9.18 (1H, m), 8.75 (1H, dd, J = 4.9 Hz, J = 1.5 Hz), 8.59 (1H, d, J = 8.8 Hz), 8.39 (1H, ddd, J = 1.4 Hz, J = 1.4 Hz, J = 8.0 Hz), 8.17 (1H, d, J = 6.8 Hz), 7.92 (1H, d, J = 2.4 Hz), 7.55 - 7.65 (4H, m), 7.30 - 7.42 (3H, m), 7.05 - 7.10 (2H, m)

Mass spectrometric value (ESI-MS) 403 (M-1)

Compound 349 N-[4-Chloro-2-(3-phenyl-allylidene-hydrazinocarbonyl)-phenyl]-isonicotinamide

10 The title compound 349 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.78 (2H, dd, J = 1.7 Hz, J = 4.4 Hz), 8.62 (1H, d, J = 9.0 Hz), 8.18 (1H, dd, J = 1.4 Hz, J = 7.6 Hz), 7.93 - 7.97 (3H, m), 7.64 (1H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.55 - 7.60 (2H, m), 7.31 - 7.43 (3H, m), 7.06 - 7.12 (2H, m)

Mass spectrometric value (ESI-MS) 403 (M-1)

Compound 350 N-{4-Bromo-2-[3-(2-hydroxy-ethoxy)-benzylidene-hydrazinocarbonyl]-phenyl}-isonicotinamide

20 The title compound 350 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.78 (2H, dd, J = 1.7 Hz, J = 4.4 Hz), 8.57 (1H, d, J = 8.8 Hz), 8.31 (1H, s), 8.08 (1H, d, J = 2.2 Hz), 7.95 (2H, dd, J = 1.7 Hz, J = 4.6 Hz), 7.81 (1H, s), 7.77 - 7.79 (1H, m), 7.76 (1H, d, J = 2.2 Hz), 7.03 (2H, d, J = 8.8 Hz), 4.11 (2H, t, J = 9.5 Hz), 3.89 (2H, t, J = 9.3 Hz)

Mass spectrometric value (ESI-MS) 481 (M-1)

Compound 351 N-{4-Chloro-2-[3-(2-hydroxy-ethoxy)-benzylidene-hydrazinocarbonyl]-phenyl}-isonicotinamide

30 The title compound 351 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.78 (2H, dd, J = 1.7 Hz, J = 4.6 Hz), 8.63 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 7.93 - 7.97 (3H, m), 7.79 (2H, d, J = 8.8 Hz), 7.64 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.03 (2H, d, J = 8.8 Hz), 4.11 (2H, t, J = 4.8 Hz), 3.89 (2H, t, J = 4.8 Hz)

Mass spectrometric value (ESI-MS) 437 (M-1)

Compound 352 N-{4-Bromo-2-[3-(2-methoxy-phenyl)-allylidene-

## hydrazinocarbonyl]-phenyl}-nicotinamide

The title compound 352 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 9.15 (1H, d, J = 2.2 Hz), 8.75 (1H, dd, J = 1.4 Hz, J = 4.9 Hz), 8.39 (1H, ddd, J = 1.8 Hz, J = 1.8 Hz, J = 7.8 Hz), 8.16 (1H, d, J = 9.2 Hz), 8.06 (1H, d, J = 2.4 Hz), 7.77 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.56 - 7.65 (2H, m), 7.30 - 7.40 (2H, m), 7.11 (1H, dd, J = 9.5 Hz, J = 6.1 Hz), 7.02 (1H, d, J = 8.3 Hz), 6.97 (1H, dd, J = 7.7 Hz), 3.90 (3H, s)

10 Mass spectrometric value (ESI-MS) 479, 480 (M-1)

Compound 353 N-{4-Bromo-2-[3-(2-methoxy-phenyl)-allylidene-hydrazinocarbonyl]-phenyl}-isonicotinamide

The title compound 353 was produced in the same manner as in Example 1.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.76 - 8.80 (2H, m), 8.57 (1H, d, J = 8.8 Hz), 8.17 (1H, d, J = 9.5 Hz), 8.07 (1H, d, J = 2.4 Hz), 7.94 (2H, dd, J = 1.7 Hz, J = 4.4 Hz), 7.78 (1H, dd, J = 2.4 Hz, J = 8.9 Hz), 7.59 (1H, d, J = 6.4 Hz), 7.30 - 7.41 (2H, m), 6.95 - 7.24 (3H, m), 3.90 (3H, s)

Mass spectrometric value (ESI-MS) 479, 480 (M-1)

20 Compound 354 N-{4-Chloro-2-[3-(2-methoxy-phenyl)-allylidene-hydrazinocarbonyl]-phenyl}-nicotinamide

The title compound 354 was produced in the same manner as in Example 1.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 9.16 (1H, d, J = 2.4 Hz), 8.76 (1H, dd, J = 2.1 Hz, J = 5.3 Hz), 8.60 (1H, d, J = 9.0 Hz), 8.35 - 8.42 (1H, m), 8.16 (1H, d, J = 9.5 Hz), 7.92 (1H, d, J = 2.4 Hz), 7.58 - 7.65 (3H, m), 7.30 - 7.41 (2H, m), 7.11 (1H, dd, J = 9.5 Hz, J = 16.1 Hz), 7.02 (1H, d, J = 7.8 Hz), 6.97 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 3.90 (3H, s)

Mass spectrometric value (ESI-MS) 433 (M-1)

30 Compound 355 N-{4-Chloro-2-[3-(2-methoxy-phenyl)-allylidene-hydrazinocarbonyl]-phenyl}-isonicotinamide

The title compound 355 was produced in the same manner as in Example 1.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.78 (2H, d, J = 4.4 Hz), 8.63 (1H, d, J = 8.8 Hz), 8.17 (1H, d, J = 9.3 Hz), 7.92 - 7.98 (3H, m), 7.55 - 7.70 (2H, m), 7.30 - 7.38 (2H, m), 7.07 - 7.17 (1H, m), 6.95 - 7.05 (2H, m)

Mass spectrometric value (ESI-MS) 435 (M-1)

Compound 356 Pridin-2-carboxylic acid [4-bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide hydrochloride

The title compound 356 was produced in the same manner as in  
5 Example 3.

Mass spectrometric value (ESI-MS) 473 (M-1)

Compound 357 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(3-fluoro-phenylsulfanylmethyl)-benzamide

The title compound 357 was produced in the same manner as in  
10 Example 4.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.59 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 8.05 - 8.08 (1H, m), 7.93 (2H, d, J = 8.6 Hz), 7.60 - 7.80 (4H, m), 7.51 (2H, d, J = 8.6 Hz), 6.80 - 7.40 (5H, m), 4.27 (2H, s), 2.40 (3H, s)

Mass spectrometric value (ESI-MS) 574 (M-1)

15 Compound 358 N-{2-[3-(4-Dimethylamino-phenyl)-allylidene-hydrazinocarbonyl]-phenyl}-nicotinamide

The title compound 358 was produced in the same manner as in  
Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 9.17 (1H, s, J = 1.5 Hz), 8.75 (1H, dd, J = 1.5 Hz, H = 4.9 Hz), 8.60 (1H, d, J = 8.3 Hz), 8.38 - 8.44 (1H, m), 8.11 (1H, d, J = 9.0 Hz), 7.85 (1H, d, J = 7.8 Hz), 7.60 - 7.65 (2H, m), 7.42 (2H, d, J = 8.8 Hz), 7.29 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.94 - 7.00 (1H, m), 6.80 - 6.88 (1H, m), 6.74 (2H, d, J = 9.0 Hz), 3.00 (6H, s)

Mass spectrometric value (ESI-MS) 412 (M-1)

25 Compound 359 Pyridin-2-carboxylic acid [4-chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 359 was produced in the same manner as in  
Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.79 (1H, d, J = 9.0 Hz), 8.73 (1H, d, J = 5.1 Hz), 8.33 (1H, s), 8.22 (1H, d, J = 7.8 Hz), 7.98 - 8.04 (1H, m), 7.89 (1H, d, J = 2.4 Hz), 7.73 (1H, d, J = 10.0 Hz), 7.58 - 7.66 (3H, m), 7.42 - 7.50 (1H, m), 7.15 - 7.22 (1H, m)

Mass spectrometric value (ESI-MS) 395 (M-1)

35 Compound 360 Pyridin-2-carboxylic acid [4-chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 360 was produced in the same manner as in



Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.78 (1H, d, J = 8.8 Hz), 8.72 (1H, d, J = 4.9 Hz), 8.33 (1H, s), 8.22 (1H, d, J = 7.8 Hz), 8.01 (1H, ddd, J = 7.8 Hz, J = 7.8 Hz, J = 1.4 Hz), 7.89 - 7.95 (2H, m), 7.88 (1H, d, J = 2.4 Hz), 7.58 - 7.65 (2H, m), 7.19 (2H, dd, J = 8.8 Hz, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 395 (M-1)

Compound 361 Pyridin-2-carboxylic acid [4-chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 361 was produced in the same manner as in

Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.78 (1H, d, J = 9.0 Hz), 8.73 (1H, d, J = 4.6 Hz), 8.31 (1H, s), 8.22 (1H, d, J = 7.8 Hz), 7.98 - 8.04 (1H, m), 7.88 (1H, d, J = 2.4 Hz), 7.72 (1H, s), 7.56 - 7.66 (3H, m), 7.24 - 7.35 (2H, m), 2.40 (3H, s)

Mass spectrometric value (ESI-MS) 391 (M-1)

Compound 362 Pyridin-2-carboxylic acid [4-chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 362 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.78 (1H, d, J = 8.8 Hz), 8.73 (1H, d, J = 4.9 Hz), 8.30 (1H, s), 8.22 (1H, d, J = 7.8 Hz), 8.01 (1H, ddd, J = 8.5 Hz, J = 8.5 Hz, J = 1.7 Hz), 7.87 (1H, d, J = 2.4 Hz), 7.75 (2H, d, J = 8.0 Hz), 7.57 - 7.64 (2H, m), 7.27 (2H, d, J = 8.0 Hz), 2.38 (3H, s)

Mass spectrometric value (ESI-MS) 391 (M-1)

Compound 363 Pyridin-2-carboxylic acid [4-chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 363 was produced in the same manner as in Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.77 (1H, d, J = 9.0 Hz), 8.73 (1H, d, J = 4.4 Hz), 8.27 (1H, s), 8.22 (1H, d, J = 7.8 Hz), 8.00 (1H, ddd, J = 1.7 Hz, J = 7.7 Hz, J = 7.7 Hz), 7.87 (1H, d, J = 2.4 Hz), 7.67 (1H, s), 7.53 - 7.64 (3H, m), 7.20 (1H, d, J = 7.8 Hz), 2.32 (3H, s), 2.30 (3H, s)

Mass spectrometric value (ESI-MS) 405 (M-1)

Compound 364 Pyridin-2-carboxylic acid [4-chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 364 was produced in the same manner as in

## Example 1.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.79 (1H, d, J = 9.0 Hz), 8.71 - 8.75 (1H, m), 8.35 - 8.40 (2H, m), 8.22 (1H, d, J = 7.8 Hz), 8.07 (1H, d, J = 8.3 Hz), 7.98 - 8.04 (1H, m), 7.90 (1H, d, J = 2.2 Hz), 7.70 (1H, d, J = 8.6 Hz), 7.58 - 7.67 (2H, m)

Mass spectrometric value (ESI-MS) 479 (M-1)

Compound 366 N-{4-Chloro-2-[N'-(3,4-dimethyl-benzyl)-hydrazinocarbonyl]-phenyl}-3-(pyridin-4-ylsulfanylmethyl)-benzamide

The title compound 366 was produced in the same manner as in

## Example 7.

Mass spectrometric value (ESI-MS) 529, 531, 532 (M-1)

Example 7

Compound 367 N-{4-Bromo-2-[N'-(4-methyl-benzyl)-hydrazinocarbonyl]-phenyl}-3,4-dimethoxy-benzamide

Compound 62: N-[4-bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3,4-dimethoxy-benzamide (100 mg) produced in the same manner as in Example 1 was dissolved in a mixed solution (2.0 ml) of tetrahydrofuran/methanol = 4/1, and sodium borohydride (14.0 mg) was added to the mixed solution at room temperature. The mixture was stirred at that temperature for 30 min, and, after the completion of the reaction was confirmed by TLC, distilled water (2.0 ml) was poured thereinto. The mixture was subjected to separatory extraction with chloroform, and the organic layer was dried over sodium sulfate and was then concentrated under the reduced pressure. The residue was purified by preparative TLC to give the title compound 367 (42.2 mg).

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.35 (1H, s), 8.06 (1H, s), 7.87 - 7.95 (4H, m), 7.63 (1H, d, J = 8.8 Hz), 7.62 (1H, d, J = 8.8 Hz), 7.50 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.19 (2H, dd, J = 8.8 Hz), 3.83 (2H, s), 3.65 (4H, t, J = 5.9 Hz), 2.71 (4H, t, J = 5.9 Hz)

Mass spectrometric value (ESI-MS) 496, 497, 498, 499 (M-1)

Compound 368 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 368 was produced in the same manner as in

## Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 8.8 Hz), 8.35 (1H, s),

7.89 - 7.98 (3H, m), 7.70 (1H, d, J = 9.8 Hz), 7.57 - 7.64 (3H, m), 7.42 - 7.50 (2H, m), 7.10 - 7.23 (1H, m), 3.62 (2H, s), 2.99 (2H, d, J = 12.0 Hz), 2.59 (4H, bs), 2.29 - 2.39 (1H, m), 2.06 (2H, t, J = 11.5 Hz), 1.86 (2H, d, J = 11.7 Hz), 1.55 - 1.68 (6H, m), 1.40 - 1.50 (2H, m)

5 Mass spectrometric value (ESI-MS) 574, 576 (M-1)

Compound 369 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-chloro-2-(4-fluorobenzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 369 was produced in the same manner as in Example 5.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.35 (1H, s), 7.88 - 7.97 (5H, m), 7.56 - 7.64 (2H, m), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.15 - 7.22 (2H, m), 3.62 (2H, s), 3.98 (2H, d, J = 12.2 Hz), 2.57 (4H, bs), 2.25 - 2.35 (1H, m), 2.05 (2H, t, J = 11.1 Hz), 1.80 - 1.90 (2H, m), 1.53 - 1.66 (7H, m), 1.40 - 1.50 (2H, m)

15 Mass spectrometric value (ESI-MS) 574, 576 (M-1)

Compound 370 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-chloro-2-(3-methylbenzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 370 was produced in the same manner as in Example 5.

20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.53 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 7.88 - 7.98 (4H, m), 7.71 (1H, s), 7.57 - 7.65 (3H, m), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.25 - 7.37 (2H, m), 3.63 (2H, s), 3.99 (2H, d, J = 12.0 Hz), 2.56 (4H, bs), 2.39 (3H, s), 2.25 - 2.37 (1H, m), 2.06 (2H, t, J = 11.3 Hz), 1.80 - 1.90 (2H, m), 1.55 - 1.64 (6H, m), 1.40 - 1.49 (2H, m)

25 Mass spectrometric value (ESI-MS) 570, 571 (M-1)

Compound 371 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-chloro-2-(4-methylbenzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 371 was produced in the same manner as in Example 5.

30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 7.89 - 7.98 (3H, m), 7.74 (2H, d, J = 8.3 Hz), 7.57 - 7.64 (2H, m), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.27 (2H, d, J = 7.8 Hz), 3.63 (2H, s), 2.95 - 3.05 (2H, m), 2.56 (4H, bs), 2.39 (3H, s), 2.25 - 2.35 (1H, m), 2.00 - 2.10 (2H, m), 1.80 - 1.90 (2H, m), 1.59 (6H, bs), 1.40 - 1.50 (2H, m)

35 Mass spectrometric value (ESI-MS) 570, 571 (M-1)

Compound 372 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-chloro-2-(3,4-

dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 372 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.30 (1H, s),  
 5 7.96 (1H, s), 7.89 - 7.95 (2H, m), 7.65 (1H, s), 7.49 - 7.68 (4H, m), 7.20  
 (1H, d, J = 8.0 Hz), 3.62 (2H, s), 2.99 (2H, d, J = 11.5 Hz), 2.55 (4H, bs),  
 2.32 (3H, s), 2.30 (3H, s), 2.25 - 2.30 (1H, m), 2.01 - 2.10 (2H, m), 1.80 -  
 1.88 (2H, m), 1.54 - 1.65 (6H, m), 1.40 - 1.50 (2H, m)

Mass spectrometric value (ESI-MS) 584, 585 (M-1)

10 Compound 373 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-chloro-2-(4-chloro-  
 3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 373 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.35 (1H, s),  
 15 8.05 (1H, d, J = 8.3 Hz), 7.89 - 7.98 (4H, m), 7.71 (1H, d, J = 8.6 Hz),  
 7.64 (1H, dd, J = 9.0 Hz, J = 2.2 Hz), 7.56 - 7.62 (1H, m), 7.53 (1H, dd, J  
 = 7.6 Hz, J = 7.6 Hz), 3.66 (2H, s), 3.00 - 3.10 (6H, m), 2.09 - 2.18 (3H,  
 m), 1.96 - 2.03 (2H, m), 1.70 - 1.80 (6H, m), 1.55 - 1.65 (2H, m)

Mass spectrometric value (ESI-MS) 658, 660 (M-1)

20 Compound 374 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-chloro-2-(3-  
 methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 374 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.62 (1H, d, J = 9.0 Hz), 8.32 (1H, s),  
 25 7.87 - 7.98 (4H, m), 7.47 - 7.65 (4H, m), 7.28 - 7.38 (2H, m), 6.97 - 7.03  
 (1H, m), 3.86 (3H, s), 3.61 (3H, s), 2.97 (2H, d, J = 10.5 Hz), 2.55 (4H,  
 bs), 2.25 - 2.35 (1H, m), 1.97 - 2.10 (2H, m), 1.80 - 1.88 (2H, m), 1.54 -  
 1.65 (6H, m), 1.44 (2H, bs)

Mass spectrometric value (ESI-MS) 586, 588 (M-1)

30 Compound 375 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-chloro-2-(4-  
 methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 375 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.30 (1H, s),  
 35 7.96 (1H, s), 7.89 - 7.94 (2H, m), 7.79 (2H, d, J = 8.8 Hz), 7.57 - 7.64  
 (2H, m), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 6.99 (2H, d, J = 8.8 Hz),

3.85 (3H, s), 3.62 (2H, s), 3.99 (2H, d, J = 12.0 Hz), 2.56 (4H, bs), 2.25 - 2.35 (1H, m), 2.05 (2H, t, J = 11.0 Hz), 1.80 - 1.90 (2H, m), 1.55 - 1.65 (6H, m), 1.40 - 1.50 (2H, m)

Mass spectrometric value (ESI-MS) 586, 587 (M-1)

- 5 Compound 376 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 376 was produced in the same manner as in Example 5.

- 10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.89 - 7.98 (4H, m), 7.62 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.59 (1H, d, J = 7.8 Hz), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.32 (1H, s), 7.20 - 7.30 (2H, m), 6.85 - 6.90 (1H, m), 3.64 (2H, s), 3.02 (2H, d, J = 11.7 Hz), 2.66 (4H, bs), 2.32 (1H, bs), 2.08 (2H, t, J = 11.4 Hz), 1.85 - 1.93 (2H, m), 1.52 - 1.68 (6H, m), 1.40 - 1.51 (2H, m)

- 15 Mass spectrometric value (ESI-MS) 572, 574 (M-1)

Compound 377 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 377 was produced in the same manner as in Example 5.

- 20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.26 (1H, s), 7.96 (1H, s), 7.88 - 7.94 (2H, m), 7.70 (1H, d, J = 8.8 Hz), 7.62 (2H, d, J = 2.4 Hz), 7.57 - 7.63 (2H, m), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 6.84 (2H, d, J = 8.5 Hz), 3.63 (2H, s), 2.99 (2H, d, J = 12.0 Hz), 2.57 (4H, bs), 2.27 - 2.36 (1H, m), 2.06 (2H, t, J = 11.2 Hz), 1.85 (2H, d, J = 12.7 Hz), 25 1.52 - 1.67 (6H, m), 1.40 - 1.50 (2H, m)

Mass spectrometric value (ESI-MS) 572, 574, 575 (M-1)

Compound 378 4-[1,4']Bipiperidiny-1'-ylmethyl-N-{4-bromo-2-[N'-(3-methoxy-benzyl)-hydrazinocarbonyl]-phenyl}-benzamide

- 30 The title compound 378 was produced in the same manner as in Example 7.

Mass spectrometric value (ESI-MS) 632, 634 (M-1)

Compound 379 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl]-benzamide

- 35 The title compound 379 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.35 (1H, s),

7.90 - 8.00 (2H, m), 7.89 (1H, s), 7.70 (1H, d, J = 9.8 Hz), 7.56 - 7.63 (3H, m), 7.53 (1H, dd, J = 7.7 Hz), 7.43 - 7.49 (1H, m), 3.67 (2H, s), 2.69 - 2.75 (2H, m), 2.54 - 2.64 (6H, m), 2.28 (3H, s), 1.03 (6H, t, J = 7.2 Hz)  
Mass spectrometric value (ESI-MS) 536, 538 (M-1)

- 5 Compound 380 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 380 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.35 (1H, s),  
10 7.98 (1H, s), 7.94 (1H, d, J = 2.2 Hz), 7.87 - 7.93 (3H, m), 7.58 - 7.64 (2H, m), 7.53 (1H, dd, J = 7.4 Hz, J = 7.4 Hz), 7.19 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 3.67 (2H, s), 2.68 - 2.74 (2H, m), 2.53 - 2.63 (6H, m), 2.28 (3H, s), 1.02 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 536, 538 (M-1)

- 15 Compound 381 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 381 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.33 (1H, s),  
20 7.99 (1H, s), 7.89 - 7.96 (2H, m), 7.71 (2H, s), 7.58 - 7.65 (2H, m), 7.53 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.25 - 7.35 (2H, m), 3.67 (2H, s), 2.67 - 2.75 (2H, m), 2.51 - 2.62 (6H, m), 2.39 (3H, s), 2.28 (3H, s), 1.01 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 532, 534 (M-1)

- 25 Compound 382 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 382 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.33 (1H, s),  
30 7.98 (1H, s), 7.88 - 7.94 (2H, m), 7.73 (2H, d, J = 8.3 Hz), 7.58 - 7.63 (2H, m), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.26 (2H, d, J = 8.0 Hz), 3.67 (2H, s), 2.68 - 2.74 (2H, m), 2.53 - 2.63 (6H, m), 2.38 (3H, s), 2.28 (3H, s), 1.02 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 532, 534 (M-1)

- 35 Compound 383 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-

methyl}-benzamide

The title compound 383 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.30 (1H, s),  
 5 7.99 (1H, s), 7.89 - 7.95 (2H, m), 7.66 (1H, s), 7.58 - 7.64 (2H, m), 7.50 -  
 7.57 (2H, m), 7.20 (1H, d, J = 8.1 Hz), 3.67 (2H, s), 2.68 - 2.75 (2H, m),  
 2.54 - 2.63 (6H, m), 2.32 (3H, s), 2.31 (3H, s), 2.29 (3H, s), 1.02 (6H, t, J  
 = 7.3 Hz)

Mass spectrometric value (ESI-MS) 546, 548 (M-1)

10 Compound 384 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-  
 hydrazinocarbonyl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-  
 methyl}-benzamide

The title compound 384 was produced in the same manner as in Example 5.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 8.8 Hz), 8.38 (1H, s),  
 8.33 (1H, s), 8.03 (1H, d, J = 8.3 Hz), 7.95 - 8.00 (2H, m), 7.92 (1H, d, J  
 = 7.8 Hz), 7.68 (1H, d, J = 8.3 Hz), 7.57 - 7.64 (2H, m), 7.53 (1H, s), 3.66  
 (2H, s), 2.71 - 2.79 (2H, m), 2.54 - 2.66 (6H, m), 2.28 (3H, s), 1.03 (6H, t,  
 J = 7.2 Hz)

20 Mass spectrometric value (ESI-MS) 620, 622 (M-1)

Compound 385 N-[4-Chloro-2-(3-methoxy-benzylidene-  
 hydrazinocarbonyl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-  
 methyl}-benzamide

25 The title compound 385 was produced in the same manner as in  
 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.33 (1H, s),  
 7.98 (1H, s), 7.89 - 7.96 (2H, m), 7.49 - 7.63 (4H, m), 7.27 - 7.37 (2H, m),  
 6.95 - 7.05 (1H, m), 3.86 (3H, s), 3.66 (2H, s), 2.67 - 2.73 (2H, m), 2.53 -  
 2.62 (6H, m), 2.27 (3H, s), 1.02 (6H, t, J = 7.2 Hz)

30 Mass spectrometric value (ESI-MS) 548, 550 (M-1)

Compound 386 N-[4-Chloro-2-(4-methoxy-benzylidene-  
 hydrazinocarbonyl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-  
 methyl}-benzamide

35 The title compound 386 was produced in the same manner as in  
 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.30 (1H, s),

7.98 (1H, s), 7.88 - 7.95 (2H, m), 7.79 (2H, d, J = 9.0 Hz), 7.58 - 7.64 (2H, m), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.99 (2H, d, J = 8.8 Hz), 3.84 (3H, s), 3.66 (2H, s), 2.67 - 2.73 (2H, m), 2.52 - 2.62 (6H, m), 2.28 (3H, s), 1.02 (6H, t, J = 7.2 Hz)

5 Mass spectrometric value (ESI-MS) 548, 550 (M-1)

Compound 387 N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl)-benzamide

The title compound 387 was produced in the same manner as in

10 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.91 (1H, s), 7.88 - 7.95 (2H, m), 7.61 (2H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.53 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.21 - 7.34 (3H, m), 6.85 - 6.90 (1H, ddd, J = 2.2 Hz, J = 2.2 Hz, J = 6.8 Hz), 3.67 (2H, s), 2.70 - 2.75 (2H, m),  
15 2.54 - 2.64 (6H, m), 2.28 (3H, s), 1.02 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 534, 536 (M-1)

Compound 388 N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl)-benzamide

20 The title compound 388 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.27 (1H, s), 7.98 (1H, s), 7.88 - 7.95 (2H, m), 7.70 (2H, d, J = 8.8 Hz), 7.61 (2H, dd, J = 1.8 Hz, J = 8.8 Hz), 7.53 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.84 (2H, d, J = 8.8 Hz), 3.68 (2H, s), 2.76 (2H, t, J = 7.3 Hz), 2.55 - 2.68 (6H, m),  
25 2.29 (3H, s), 1.04 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 534, 536 (M-1)

Compound 389 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

30 The title compound 389 was produced in the same manner as in Example 4.

Mass spectrometric value (ESI-MS) 506 (M-1)

Compound 390 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

35 The title compound 390 was produced in the same manner as in Example 4.



Mass spectrometric value (ESI-MS) 506 (M-1)

Compound 391 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 391 was produced in the same manner as in  
5 Example 4.

Mass spectrometric value (ESI-MS) 503, 504 (M-1)

Compound 392 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 392 was produced in the same manner as in  
10 Example 4.

Mass spectrometric value (ESI-MS) 503, 504 (M-1)

Compound 393 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 393 was produced in the same manner as in  
15 Example 4.

Mass spectrometric value (ESI-MS) 591, 593 (M-1)

Compound 394 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[(2-hydroxy-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 394 was produced in the same manner as in  
20 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.35 (1H, s), 8.00 (1H, s), 7.88 - 7.95 (2H, m), 7.71 (1H, d, J = 9.3 Hz), 7.58 - 7.67 (3H, m), 7.53 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.42 - 7.50 (1H, m), 7.15 -  
25 7.22 (1H, m), 3.69 - 3.74 (4H, m), 2.62 (2H, t, J = 6.0 Hz), 2.30 (3H, s)

Mass spectrometric value (ESI-MS) 481, 483 (M-1)

Compound 395 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[(2-hydroxy-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 395 was produced in the same manner as in  
30 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.35 (1H, s), 7.95 - 8.02 (2H, m), 7.87 - 7.95 (3H, m), 7.63 (1H, d, J = 9.0 Hz), 7.62 (1H, d, J = 9.0 Hz), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.19 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 3.69 - 3.75 (4H, m), 2.62 (2H, t, J = 6.0 Hz), 2.30  
35 (3H, s)

Mass spectrometric value (ESI-MS) 481, 483 (M-1)

Compound 396 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-hydroxy-ethyl)-methyl-amino]-methyl)-benzamide

The title compound 396 was produced in the same manner as in Example 5.

5  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.65 (1H, d,  $J = 8.8$  Hz), 8.33 (1H, s), 7.99 (1H, s), 7.88 - 7.95 (3H, m), 7.71 (1H, s), 7.60 - 7.65 (3H, m), 7.52 (1H, dd,  $J = 7.6$  Hz,  $J = 7.6$  Hz), 7.25 - 7.36 (2H, m), 3.68 - 3.74 (4H, m), 2.61 (2H, t,  $J = 6.0$  Hz), 2.39 (3H, s), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 477 (M-1)

10 Compound 397 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-hydroxy-ethyl)-methyl-amino]-methyl)-benzamide

The title compound 397 was produced in the same manner as in Example 5.

15  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.64 (1H, d,  $J = 9.0$  Hz), 8.33 (1H, s), 8.00 (1H, bs), 7.90 - 7.95 (2H, m), 7.74 (2H, d,  $J = 7.8$  Hz), 7.60 - 7.65 (2H, m), 7.53 (1H, dd,  $J = 7.7$  Hz,  $J = 7.7$  Hz), 7.27 (2H, d,  $J = 7.8$  Hz), 3.70 - 3.78 (4H, m), 2.65 (2H, t,  $J = 6.0$  Hz), 2.38 (3H, s), 2.32 (3H, s)

Mass spectrometric value (ESI-MS) 477 (M-1)

20 Compound 398 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-hydroxy-ethyl)-methyl-amino]-methyl)-benzamide

The title compound 398 was produced in the same manner as in Example 5.

25  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.65 (1H, d,  $J = 9.0$  Hz), 8.30 (1H, s), 8.00 (1H, bs), 7.90 - 7.95 (2H, m), 7.66 (1H, s), 7.59 - 7.65 (2H, m), 7.50 - 7.57 (2H, m), 7.20 (1H, d,  $J = 7.8$  Hz), 3.76 (2H, s), 3.73 (2H, t,  $J = 6.0$  Hz), 2.66 (2H, t,  $J = 6.0$  Hz), 2.33 (3H, s), 2.31 (3H, s), 2.30 (3H, s)

Mass spectrometric value (ESI-MS) 491 (M-1)

30 Compound 399 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-hydroxy-ethyl)-methyl-amino]-methyl)-benzamide

The title compound 399 was produced in the same manner as in Example 5.

35  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.63 (1H, d,  $J = 9.0$  Hz), 8.39 (1H, s), 8.34 (1H, s), 8.03 - 8.08 (1H, m), 8.00 (1H, s), 7.94 (1H, d,  $J = 2.4$  Hz), 7.90 (1H, d,  $J = 8.3$  Hz), 7.70 (1H, d,  $J = 8.5$  Hz), 7.58 - 7.67 (2H, m),

7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 3.68 - 3.74 (4H, m), 2.60 (2H, t, J = 6.0 Hz), 2.28 (3H, s)

Mass spectrometric value (ESI-MS) 565 (M-1)

Compound                      400                      N-[4-Chloro-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-hydroxy-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 400 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 7.99 (1H, s), 7.88 - 7.94 (2H, m), 7.58 - 7.64 (2H, m), 7.57 (1H, s), 7.48 - 7.54 (1H, m), 7.26 - 7.36 (2H, m), 6.97 - 7.02 (1H, m), 3.86 (3H, s), 3.68 - 3.74 (4H, m), 2.61 (2H, t, J = 6.1 Hz), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 493, 495 (M-1)

Compound                      401                      N-[4-Chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-hydroxy-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 401 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 7.99 (1H, s), 7.75 - 7.93 (5H, m), 7.58 - 7.65 (2H, m), 7.53 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.00 (1H, d, J = 8.8 Hz), 3.85 (3H, s), 3.67 - 3.74 (4H, m), 2.63 (2H, t, J = 6.1 Hz), 2.31 (3H, s)

Mass spectrometric value (ESI-MS) 493, 494 (M-1)

Compound                      402                      N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-hydroxy-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 402 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.99 (1H, s), 7.88 - 7.94 (3H, m), 7.62 (2H, d, J = 7.8 Hz), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.31 (1H, bs), 7.23 - 7.28 (2H, m), 3.68 - 3.74 (4H, m), 2.61 (2H, t, J = 6.1 Hz), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 479 (M-1)

Compound                      403                      N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[2-hydroxy-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 403 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.27 (1H, s), 7.99 (1H, s), 7.89 - 7.94 (3H, m), 7.71 (2H, d, J = 8.7 Hz), 7.58 - 7.65 (2H, m), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.84 (2H, d, J = 8.7 Hz), 3.71 (2H, t, J = 6.1 Hz), 3.70 (2H, s), 2.61 (2H, t, J = 6.1 Hz), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 479, 481 (M-1)

Compound 404 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 404 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.67 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 8.07 (1H, s), 7.94 (1H, d, J = 2.4 Hz), 7.90 (1H, d, J = 7.8 Hz), 7.74 (1H, s), 7.61 - 7.66 (3H, m), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.25 - 7.37 (2H, m), 3.83 (2H, s), 3.66 (4H, t, J = 5.9 Hz), 2.71 (4H, t, J = 5.9 Hz), 2.40 (3H, s)

Mass spectrometric value (ESI-MS) 507, 509 (M-1)

Compound 405 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 405 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 507, 508 (M-1)

Compound 406 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 406 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.67 (1H, d, J = 9.0 Hz), 8.30 (1H, s), 8.06 (1H, s), 7.92 (1H, d, J = 2.4 Hz), 7.87 - 7.91 (1H, m), 7.68 (1H, s), 7.60 - 7.65 (2H, m), 7.47 - 7.58 (2H, m), 7.20 (1H, d, J = 7.8 Hz), 3.83 (2H, s), 3.65 (4H, t, J = 5.8 Hz), 2.71 (4H, t, J = 5.8 Hz), 2.32 (3H, s), 2.30 (3H, s)

Mass spectrometric value (ESI-MS) 521, 522 (M-1)

Compound 407 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 407 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.39 (1H, s), 8.37 (1H, s), 8.05 - 8.10 (2H, m), 7.95 (1H, d, J = 2.2 Hz), 7.84 - 7.92 (1H, m), 7.70 (1H, d, J = 8.3 Hz), 7.60 - 7.68 (2H, m), 7.48 - 7.53 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 3.83 (2H, s), 3.65 (4H, t, J = 5.8 Hz), 2.71 (4H, t, J = 5.8 Hz)

Mass spectrometric value (ESI-MS) 595, 597 (M-1)

Compound 408 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 408 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 8.06 (1H, s), 7.89 - 7.96 (2H, m), 7.58 - 7.66 (3H, m), 7.48 - 7.54 (1H, m), 7.28 - 7.38 (2H, m), 6.97 - 7.04 (1H, m), 3.87 (3H, s), 3.85 (2H, s), 3.66 (4H, t, J = 5.9 Hz), 2.72 (4H, t, J = 5.9 Hz)

Mass spectrometric value (ESI-MS) 523, 525 (M-1)

Compound 409 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 409 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 8.06 (1H, s), 7.80 - 7.94 (4H, m), 7.60 - 7.66 (2H, m), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.00 (1H, d, J = 9.0 Hz), 3.90 (3H, s), 3.85 (2H, s), 3.66 (4H, t, J = 5.9 Hz), 2.71 (4H, t, J = 5.9 Hz)

Mass spectrometric value (ESI-MS) 523, 525 (M-1)

Compound 410 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 410 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 8.05 (1H, s), 7.93 (1H, d, J = 2.4 Hz), 7.87 - 7.92 (1H, m), 7.60 - 7.66 (2H, m), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.33 (1H, s), 7.26 (2H, d, J = 4.9 Hz), 6.85 - 6.92 (1H, m), 3.83 (2H, s), 3.66 (4H, t, J = 5.9 Hz), 2.71 (4H, t, J = 5.9 Hz)

Mass spectrometric value (ESI-MS) 509 (M-1)

Compound 411 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 411 was produced in the same manner as in Example 5.

- 5  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.67 (1H, d,  $J$  = 9.0 Hz), 8.27 (1H, s), 8.06 (1H, s), 7.85 - 7.93 (2H, m), 7.72 (2H, d,  $J$  = 8.8 Hz), 7.60 - 7.65 (2H, m), 7.47 - 7.54 (1H, m), 6.85 (2H, d,  $J$  = 8.6 Hz), 3.83 (2H, s), 3.65 (4H, t,  $J$  = 5.9 Hz), 2.71 (4H, t,  $J$  = 5.9 Hz)

Mass spectrometric value (ESI-MS) 509, 511 (M-1)

- 10 Compound 412 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[2-hydroxy-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 412 was produced in the same manner as in Example 5.

- 15  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.65 (1H, d,  $J$  = 9.0 Hz), 8.36 (1H, s), 7.98 (2H, d,  $J$  = 8.3 Hz), 7.94 (1H, d,  $J$  = 2.4 Hz), 7.68 - 7.74 (1H, m), 7.58 - 7.65 (2H, m), 7.55 (2H, d,  $J$  = 8.3 Hz), 7.43 - 7.50 (1H, m), 7.10 - 7.23 (1H, m), 3.69 (2H, t,  $J$  = 6.1 Hz), 3.67 (2H, s), 2.58 (2H, t,  $J$  = 6.1 Hz), 2.28 (3H, s)

Mass spectrometric value (ESI-MS) 482 (M-1)

- 20 Compound 413 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[2-hydroxy-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 413 was produced in the same manner as in Example 5.

- 25  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.65 (1H, d,  $J$  = 9.0 Hz), 8.36 (1H, s), 7.98 (2H, d,  $J$  = 8.3 Hz), 7.87 - 7.95 (3H, m), 7.63 (1H, dd,  $J$  = 2.4 Hz,  $J$  = 9.0 Hz), 7.55 (2H, d,  $J$  = 7.8 Hz), 7.19 (2H, dd,  $J$  = 8.7 Hz,  $J$  = 8.7 Hz), 3.69 (2H, t,  $J$  = 6.0 Hz), 3.67 (2H, s), 2.58 (2H, t,  $J$  = 6.0 Hz), 2.28 (3H, s)

Mass spectrometric value (ESI-MS) 481, 483 (M-1)

- 30 Compound 414 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[2-hydroxy-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 414 was produced in the same manner as in Example 5.

- 35  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.66 (1H, d,  $J$  = 9.0 Hz), 8.34 (1H, s), 7.98 (2H, d,  $J$  = 8.0 Hz), 7.93 (1H, d,  $J$  = 2.4 Hz), 7.72 (1H, s), 7.60 - 7.65 (2H, m), 7.55 (2H, d,  $J$  = 8.0 Hz), 7.26 - 7.36 (2H, m), 3.69 (2H, t,  $J$

= 6.1 Hz), 3.67 (2H, s), 2.58 (2H, t, J = 6.1 Hz), 2.40 (3H, s), 2.28 (3H, s)  
Mass spectrometric value (ESI-MS) 477, 479 (M-1)

Compound 415 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-hydroxy-ethyl)-methyl-amino]-methyl}-benzamide

5 The title compound 415 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 7.98 (2H, d, J = 8.0 Hz), 7.93 (1H, d, J = 2.5 Hz), 7.74 (2H, d, J = 8.0 Hz), 7.62 (1H, dd, J = 2.5 Hz, J = 9.0 Hz), 7.55 (2H, d, J = 8.0 Hz), 7.27 (2H, d, J = 7.8 Hz), 3.69 (2H, t, J = 6.1 Hz), 3.67 (3H, s), 2.58 (2H, t, J = 6.1 Hz), 2.39 (3H, s), 2.27 (3H, s)

Mass spectrometric value (ESI-MS) 477 (M-1)

Compound 416 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-hydroxy-ethyl)-methyl-amino]-methyl}-benzamide

15 The title compound 416 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.30 (1H, s), 7.98 (2H, d, J = 8.3 Hz), 7.92 (1H, d, J = 2.4 Hz), 7.66 (1H, s), 7.61 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.52 - 7.57 (3H, m), 7.20 (1H, d, J = 8.0 Hz), 3.69 (2H, d, J = 8.0 Hz), 3.67 (2H, s), 2.58 (2H, t, J = 6.1 Hz), 2.32 (3H, s), 2.30 (3H, s), 2.27 (3H, s)

Mass spectrometric value (ESI-MS) 491, 493 (M-1)

Compound 417 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-hydroxy-ethyl)-methyl-amino]-methyl}-benzamide

25 The title compound 417 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.55 (1H, d, J = 9.0 Hz), 8.30 (1H, s), 8.25 (1H, s), 7.93 - 7.98 (1H, m), 7.83 - 7.90 (3H, m), 7.60 (1H, d, J = 8.3 Hz), 7.54 (1H, dd, J = 2.3 Hz, J = 8.8 Hz), 7.46 (2H, d, J = 8.3 Hz), 3.59 (2H, t, J = 6.0 Hz), 3.58 (2H, s), 2.49 (2H, t, J = 6.0 Hz), 2.18 (3H, s)

Mass spectrometric value (ESI-MS) 565, 567 (M-1)

Compound 418 N-[4-Chloro-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-hydroxy-ethyl)-methyl-amino]-methyl}-benzamide

35

The title compound 418 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.56 (1H, d, J = 9.0 Hz), 8.24 (1H, s), 7.82 - 7.90 (3H, m), 7.42 - 7.55 (4H, m), 7.18 - 7.27 (2H, m), 6.88 - 6.94 (1H, m), 3.77 (3H, s), 3.56 - 3.61 (4H, m), 2.50 (2H, t, J = 6.0 Hz), 2.18 (3H, s)

Mass spectrometric value (ESI-MS) 493, 495 (M-1)

Compound 419 N-[4-Chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-hydroxy-ethyl)-methyl-amino]-methyl-benzamide

The title compound 419 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.56 (1H, d, J = 9.0 Hz), 8.21 (1H, s), 7.88 (2H, d, J = 8.3 Hz), 7.81 (1H, d, J = 2.2 Hz), 7.69 (2H, d, J = 8.8 Hz), 7.50 (1H, dd, J = 2.4 Hz, J = 8.8 Hz), 7.45 (2H, d, J = 8.3 Hz), 6.89 (2H, d, J = 8.8 Hz), 3.75 (3H, s), 3.59 (2H, t, J = 6.1 Hz), 3.59 (2H, s), 2.50 (2H, t, J = 6.1 Hz), 2.19 (3H, s)

Mass spectrometric value (ESI-MS) 493, 495 (M-1)

Compound 420 N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-hydroxy-ethyl)-methyl-amino]-methyl-benzamide

The title compound 420 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.55 (1H, d, J = 8.8 Hz), 8.19 (1H, s), 7.88 (2H, d, J = 7.8 Hz), 7.82 - 7.85 (1H, m), 7.50 - 7.55 (1H, m), 7.46 (2H, d, J = 7.6 Hz), 7.22 (1H, s), 7.13 - 7.18 (2H, m), 6.75 - 6.82 (1H, m), 3.56 - 3.62 (4H, m), 2.49 (2H, t, J = 6.1 Hz), 2.19 (3H, s)

Mass spectrometric value (ESI-MS) 479, 481 (M-1)

Compound 421 N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-hydroxy-ethyl)-methyl-amino]-methyl-benzamide

The title compound 421 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 479, 481 (M-1)

Compound 422 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide



The title compound 422 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.55 (1H, d, J = 9.0 Hz), 8.26 (1H, s), 7.93 (1H, s), 7.84 (1H, d, J = 2.4 Hz), 7.78 - 7.83 (1H, m), 7.33 - 7.70 (6H, m), 7.05 - 7.20 (1H, m), 3.72 (2H, s), 3.57 (2H, t, J = 6.1 Hz), 2.59 (2H, t, J = 6.0 Hz), 2.54 (3H, q, J = 7.3 Hz), 1.02 (3H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 495 (M-1)

Compound 423 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 423 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.54 (1H, d, J = 9.0 Hz), 8.26 (1H, s), 7.92 (1H, s), 7.77 - 7.85 (4H, m), 7.53 (2H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.41 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.09 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 3.68 (2H, s), 3.57 (2H, t, J = 6.2 Hz), 2.57 (2H, t, J = 6.3 Hz), 2.53 (2H, q, J = 7.1 Hz), 1.01 (3H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 495 (M-1)

Compound 424 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 424 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.56 (1H, d, J = 9.0 Hz), 8.24 (1H, s), 7.92 (1H, s), 7.83 (1H, d, J = 2.4 Hz), 7.78 - 7.82 (1H, m), 7.62 (1H, s), 7.53 (2H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.42 (2H, dd, J = 7.4 Hz, J = 7.4 Hz), 7.15 - 7.26 (2H, m), 3.69 (2H, s), 3.57 (2H, t, J = 6.3 Hz), 2.57 (2H, t, J = 6.3 Hz), 2.53 (2H, q, J = 7.2 Hz), 2.30 (3H, s), 1.01 (3H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 491 (M-1), 515 (M+23)

Compound 425 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 425 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 8.01 (1H, s), 7.88 - 7.94 (2H, m), 7.74 (2H, d, J = 8.1 Hz), 7.60 - 7.65 (2H, m), 7.51 (2H, m), 7.26 (2H, d, J = 8.1 Hz), 3.80 (2H, s), 3.67 (2H, t, J = 6.2 Hz), 2.69 (2H, t, J = 6.2 Hz), 2.64 (2H, q, J = 7.1 Hz), 2.38 (3H, s), 1.11 (3H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 491 (M-1), 515 (M+23)

Compound 426 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

5 The title compound 426 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.30 (1H, s), 8.02 (1H, s), 7.89 - 7.94 (2H, m), 7.60 - 7.69 (3H, m), 7.49 - 7.57 (2H, m), 7.21 (1H, d, J = 7.8 Hz), 3.82 (2H, s), 3.68 (2H, t, J = 6.2 Hz), 2.70 (2H, t, J = 6.2 Hz), 2.66 (2H, q, J = 7.1 Hz), 2.32 (3H, s), 2.30 (3H, s), 1.12 (3H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 505 (M-1)

Compound 427 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

15 The title compound 427 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 579 (M-1)

Compound 428 N-[4-Chloro-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 428 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 8.01 (1H, s), 7.93 (1H, d, J = 2.2 Hz), 7.89 (1H, d, J = 2.2 Hz), 7.56 - 7.66 (3H, m), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.29 - 7.37 (2H, m), 6.97 - 7.04 (1H, m), 3.86 (3H, s), 3.77 (2H, s), 3.66 (2H, t, J = 6.2 Hz), 2.66 (2H, t, J = 6.4 Hz), 2.61 (2H, q, J = 7.4 Hz), 1.10 (3H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 507 (M-1)

Compound 429 N-[4-Chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 429 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.30 (1H, s), 8.01 (1H, s), 7.91 (1H, d, J = 2.4 Hz), 7.87 - 7.91 (1H, m), 7.80 (2H, d, J

= 8.8 Hz), 7.59 - 7.65 (2H, m), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.99 (2H, d, J = 8.8 Hz), 3.85 (3H, s), 3.78 (2H, s), 3.66 (2H, t, J = 6.2 Hz), 2.67 (2H, t, J = 6.3 Hz), 2.62 (2H, q, J = 7.2 Hz), 1.10 (3H, t, J = 7.1 Hz)  
Mass spectrometric value (ESI-MS) 507 (M-1)

5 Compound 430 N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 430 was produced in the same manner as in Example 5.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 8.8 Hz), 8.29 (1H, s), 8.01 (1H, s), 7.93 (1H, d, J = 2.2 Hz), 7.89 (1H, d, J = 7.6 Hz), 7.60 - 7.66 (2H, m), 7.51 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.22 - 7.40 (3H, m), 3.78 (2H, s), 3.66 (2H, t, J = 6.4 Hz), 2.67 (2H, t, J = 6.4 Hz), 2.62 (2H, q, J = 7.3 Hz), 1.10 (3H, t, J = 7.2 Hz)

15 Mass spectrometric value (ESI-MS) 493 (M-1)

Compound 431 N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 431 was produced in the same manner as in Example 5.

20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 8.8 Hz), 8.27 (1H, s), 8.00 (1H, s), 7.86 - 7.94 (2H, m), 7.70 (2H, d, J = 8.8 Hz), 7.58 - 7.65 (2H, m), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.84 (2H, d, J = 8.6 Hz), 3.77 (2H, s), 3.66 (2H, t, J = 6.3 Hz), 2.66 (2H, t, J = 6.3 Hz), 2.62 (2H, q, J = 7.2 Hz), 1.10 (3H, t, J = 7.1 Hz)

25 Mass spectrometric value (ESI-MS) 493 (M-1)

Compound 432 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 432 was produced in the same manner as in Example 5.

30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.36 (1H, s), 7.92 - 8.00 (3H, m), 7.71 (1H, d, J = 9.5 Hz), 7.54 - 7.65 (4H, m), 7.43 - 7.51 (1H, m), 7.15 - 7.23 (1H, m), 3.75 (2H, s), 3.63 (2H, t, J = 6.2 Hz), 2.64 (2H, t, J = 6.2 Hz), 2.60 (2H, q, J = 7.3 Hz), 1.09 (3H, t, J = 7.1 Hz)

35 Mass spectrometric value (ESI-MS) 495 (M-1)

Compound 433 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-

phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 433 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 8.8 Hz), 8.35 (1H, s),  
 5 7.96 (2H, d, J = 8.3 Hz), 7.87 - 7.94 (3H, m), 7.61 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.55 (2H, d, J = 8.0 Hz), 7.19 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 3.74 (2H, s), 3.63 (2H, t, J = 6.2 Hz), 2.64 (2H, t, J = 6.3 Hz), 2.60 (2H, q, J = 7.2 Hz), 1.09 (3H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 495 (M-1)

10 Compound 434 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 434 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.33 (1H, s),  
 15 7.97 (2H, d, J = 8.3 Hz), 7.93 (1H, d, J = 2.4 Hz), 7.12 (1H, s), 7.60 - 7.65 (2H, m), 7.56 (2H, d, J = 8.3 Hz), 7.25 - 7.36 (2H, m), 3.74 (2H, s), 3.63 (2H, t, J = 6.2 Hz), 2.64 (2H, t, J = 6.3 Hz), 2.60 (2H, q, J = 7.1 Hz), 2.40 (3H, s), 1.09 (3H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 491 (M-1)

20 Compound 435 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 435 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.33 (1H, s),  
 25 7.97 (2H, d, J = 8.3 Hz), 7.92 (1H, d, J = 2.2 Hz), 7.89 (1H, s), 7.74 (2H, d, J = 8.0 Hz), 7.61 (1H, dd, J = 2.4 Hz, J = 8.8 Hz), 7.27 (1H, d, J = 8.0 Hz), 3.77 (2H, s), 3.64 (2H, t, J = 6.2 Hz), 2.67 (2H, t, J = 6.3 Hz), 2.63 (2H, q, J = 7.1 Hz), 2.38 (3H, s), 1.10 (3H, t, 7.2 Hz)

Mass spectrometric value (ESI-MS) 491 (M-1)

30 Compound 436 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 436 was produced in the same manner as in Example 5.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.30 (1H, s), 7.97 (2H, d, J = 8.3 Hz), 7.92 (1H, d, J = 2.4 Hz), 7.52 - 7.68 (5H, m),

7.20 (1H, d, J = 7.8 Hz), 3.77 (2H, s), 3.64 (2H, t, J = 6.2 Hz), 2.67 (2H, t, J = 6.2 Hz), 2.63 (2H, q, J = 7.2 Hz), 2.32 (3H, s), 2.31 (3H, s), 1.10 (3H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 505 (M-1)

- 5 Compound 437 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 437 was produced in the same manner as in Example 5.

- 10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.39 (1H, s), 8.34 (1H, s), 8.05 (1H, d, J = 8.1 Hz), 7.93 - 7.98 (2H, m), 7.89 (1H, s), 7.70 (1H, d, J = 8.3 Hz), 7.63 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.56 (2H, d, J = 8.3 Hz), 3.75 (2H, s), 3.63 (2H, t, J = 6.4 Hz), 2.64 (2H, t, J = 6.4 Hz), 2.60 (2H, q, J = 7.1 Hz), 1.09 (3H, t, J = 7.2 Hz)

- 15 Mass spectrometric value (ESI-MS) 579 (M-1)

Compound 438 N-[4-Chloro-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

The title compound 438 was produced in the same manner as in Example 5.

- 20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 7.92 - 7.99 (3H, m), 7.62 (1H, dd, J = 2.2 Hz, J = 8.8 Hz), 7.54 - 7.60 (3H, m), 7.28 - 7.37 (2H, m), 6.98 - 7.04 (1H, m), 3.87 (3H, s), 3.74 (2H, s), 3.63 (2H, t, J = 6.2 Hz), 2.64 (2H, t, J = 6.3 Hz), 2.60 (2H, q, J = 7.2 Hz),  
25 1.09 (3H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 507 (M-1)

Compound 439 N-[4-Chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

- 30 The title compound 439 was produced in the same manner as in Example 5.

- <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 7.96 (2H, d, J = 8.3 Hz), 7.92 (1H, d, J = 2.4 Hz), 7.80 (2H, d, J = 8.8 Hz), 7.61 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.56 (2H, d, J = 8.3 Hz), 6.99 (2H, d, J = 8.8 Hz), 3.85 (3H, s), 3.74 (2H, s), 3.63 (2H, t, J = 6.4 Hz), 2.65  
35 (2H, t, J = 6.4 Hz), 2.60 (2H, q, J = 7.2 Hz), 1.09 (3H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 507 (M-1)

Compound 440 N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide

5 The title compound 440 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 8.8 Hz), 8.29 (1H, s), 7.88 - 7.99 (3H, m), 7.62 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.56 (2H, d, J = 8.3 Hz), 7.30 - 7.33 (1H, m), 7.23 - 7.27 (2H, m), 6.85 - 6.91 (1H, m),  
10 3.75 (2H, s), 3.63 (2H, t, J = 6.3 Hz), 2.65 (2H, t, J = 6.2 Hz), 2.61 (2H, q, J = 7.1 Hz), 1.09 (3H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 493 (M-1)

Compound 441 N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[ethyl-(2-hydroxy-ethyl)-amino]-methyl]-benzamide  
15

The title compound 441 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.27 (1H, s), 7.97 (2H, d, J = 8.1 Hz), 7.91 (1H, d, J = 2.4 Hz), 7.70 (2H, d, J = 8.8 Hz),  
20 7.61 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.56 (2H, d, J = 8.3 Hz), 6.85 (2H, d, J = 8.8 Hz), 3.78 (2H, s), 3.64 (2H, t, J = 6.2 Hz), 2.68 (2H, t, J = 6.2 Hz), 2.64 (2H, q, J = 7.2 Hz), 1.10 (3H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 493 (M-1)

Compound 442 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide  
25

The title compound 442 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.36 (1H, s), 7.97 (2H, d, J = 8.3 Hz), 7.94 (1H, d, J = 2.4 Hz), 7.71 (1H, d, J = 8.1 Hz),  
30 7.58 - 7.65 (2H, m), 7.55 (2H, d, J = 8.3 Hz), 7.43 - 7.50 (1H, m), 7.15 - 7.25 (1H, m), 3.85 (2H, s), 2.60 - 2.67 (2H, m), 2.50 - 2.59 (6H, m), 1.00 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 539 (M-1)

Compound 443 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide  
35

The title compound 443 was produced in the same manner as in

Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.35 (1H, s), 7.97 (2H, d, J = 8.3 Hz), 7.88 - 7.95 (3H, m), 7.62 (1H, dd, J = 2.2 Hz, J = 8.8 Hz), 7.55 (1H, d, J = 8.3 Hz), 7.19 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 3.85 (1H, s), 2.49 - 2.67 (8H, m), 1.00 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 539 (M-1)

Compound 444 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 444 was produced in the same manner as in

Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 7.97 (2H, d, J = 8.3 Hz), 7.93 (1H, d, J = 2.4 Hz), 7.72 (1H, s), 7.60 - 7.65 (2H, m), 7.55 (2H, d, J = 8.3 Hz), 7.25 - 7.36 (2H, m), 3.84 (2H, s), 2.48 - 2.66 (8H, m), 2.39 (3H, s), 1.00 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 445 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 445 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 7.97 (2H, d, J = 8.3 Hz), 7.93 (1H, d, J = 2.4 Hz), 7.74 (2H, d, J = 7.8 Hz), 7.61 (1H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.55 (2H, d, J = 8.3 Hz), 7.27 (2H, d, J = 7.8 Hz), 3.84 (2H, s), 2.47 - 2.66 (8H, m), 2.39 (3H, s), 1.00 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 446 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 446 was produced in the same manner as in

Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 7.96 (2H, d, J = 8.3 Hz), 7.91 (1H, d, J = 2.4 Hz), 7.65 (1H, s), 7.60 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.51 - 7.56 (3H, m), 7.19 (1H, d, J = 7.8 Hz), 3.83 (2H, s), 2.58 - 2.65 (2H, m), 2.48 - 2.58 (6H, m), 2.31 (3H, s), 2.29 (3H, s), 0.99 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 549 (M-1)

Compound 447 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 447 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.39 (1H, s), 8.35 (1H, s), 8.05 (1H, d, J = 8.3 Hz), 7.93 - 7.99 (3H, m), 7.70 (1H, d, J = 8.3 Hz), 7.63 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.55 (2H, d, J = 8.0 Hz), 3.85 (2H, s), 2.50 - 2.68 (8H, m), 1.00 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 623 (M-1)

Compound 448 N-[4-Chloro-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 448 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 7.92 - 8.00 (3H, m), 7.63 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.59 (1H, s), 7.55 (2H, d, J = 8.0 Hz), 7.28 - 7.38 (2H, m), 6.98 - 7.03 (1H, m), 3.88 (3H, s), 3.84 (2H, s), 2.58 - 2.66 (2H, m), 2.47 - 2.58 (6H, m), 0.99 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 449 N-[4-Chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 449 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 7.97 (2H, d, J = 8.3 Hz), 7.92 (1H, d, J = 2.4 Hz), 7.80 (2H, d, J = 8.8 Hz), 7.61 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.55 (2H, d, J = 8.6 Hz), 7.00 (2H, d, J = 8.8 Hz), 3.85 (3H, s), 3.84 (2H, s), 2.49 - 2.67 (8H, m), 1.00 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 450 N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 450 was produced in the same manner as in



## Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.97 (2H, d, J = 8.3 Hz), 7.93 (1H, d, J = 2.4 Hz), 7.62 (1H, dd, J = 2.4 Hz, J = 8.8 Hz), 7.55 (2H, d, J = 8.3 Hz), 7.31 (1H, s), 7.22 - 7.28 (2H, m), 6.83 - 6.91 (1H, m), 3.85 (2H, s), 2.57 - 2.66 (2H, m), 2.48 - 2.57 (6H, m), 1.00 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 537 (M-1)

Compound 451 N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 451 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.27 (1H, s), 7.96 (2H, d, J = 8.3 Hz), 7.91 (1H, d, J = 2.4 Hz), 7.71 (2H, d, J = 8.6 Hz), 7.61 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.55 (2H, d, J = 8.3 Hz), 6.84 (2H, d, J = 8.8 Hz), 3.84 (2H, s), 2.49 - 2.66 (8H, m), 1.00 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 537 (M-1)

Compound 452 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 452 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.36 (1H, s), 7.93 - 7.99 (2H, m), 7.89 (1H, d, J = 8.3 Hz), 7.70 (1H, d, J = 8.5 Hz), 7.52 - 7.65 (3H, m), 7.41 - 7.56 (2H, m), 7.15 - 7.23 (1H, m), 3.88 (2H, s), 2.42 - 2.66 (8H, m), 0.96 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 539 (M-1)

Compound 453 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 453 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 8.8 Hz), 8.36 (1H, s), 7.85 - 7.99 (5H, m), 7.57 - 7.65 (2H, m), 7.47 - 7.55 (1H, m), 7.12 - 7.23 (2H, m), 3.88 (2H, s), 2.46 - 2.65 (8H, m), 0.96 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 539 (M-1)

Compound 454 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 454 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 7.98 (1H, s), 7.89 (1H, d, J = 7.1 Hz), 7.71 (1H, s), 7.59 - 7.66 (3H, m), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.24 - 7.35 (2H, m), 3.88 (2H, s), 2.46 - 2.65 (8H, m), 2.39 (3H, s), 0.96 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 455 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 455 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.33 (1H, s), 7.97 (1H, s), 7.84 - 7.95 (2H, m), 7.73 (2H, d, J = 8.1 Hz), 7.58 - 7.65 (2H, m), 7.51 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.26 (2H, d, J = 7.8 Hz), 3.88 (2H, s), 2.46 - 2.66 (8H, m), 2.38 (3H, s), 0.96 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 456 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 456 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.30 (1H, s), 7.97 (1H, s), 7.87 - 7.94 (2H, m), 7.58 - 7.67 (3H, m), 7.48 - 7.56 (2H, m), 7.19 (1H, d, J = 7.6 Hz), 3.88 (2H, s), 2.46 - 2.67 (8H, m), 2.31 (3H, s), 2.29 (3H, s), 0.96 (6H, q, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 549 (M-1)

Compound 457 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 457 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.40 (1H, s), 8.33 (1H, s), 8.04 (1H, d, J = 7.8 Hz), 7.93 - 8.00 (2H, m), 7.89 (1H, d, J = 7.1 Hz), 7.69 (1H, d, J = 8.0 Hz), 7.60 - 7.65 (2H, m), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 3.88 (2H, s), 2.58 - 2.67 (2H, m), 2.47 - 2.58 (6H, m), 0.97 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 623 (M-1)

Compound 458 N-[4-Chloro-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

5 The title compound 458 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 7.97 (1H, s), 7.93 (1H, d, J = 2.4 Hz), 7.87 - 7.91 (1H, m), 7.59 - 7.65 (2H, m), 7.57 (1H, s), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.28 - 7.37 (2H, m), 6.97 - 7.03 (1H, m), 3.87 (2H, s), 3.86 (3H, s), 2.46 - 2.65 (8H, m), 0.96 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 459 N-[4-Chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

15 The title compound 459 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 7.97 (1H, s), 7.92 (1H, d, J = 2.4 Hz), 7.89 (1H, d, J = 9.0 Hz), 7.79 (2H, d, J = 8.8 Hz), 7.59 - 7.65 (2H, m), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.99 (2H, d, J = 8.8 Hz), 3.88 (2H, s), 3.84 (3H, s), 2.46 - 2.66 (8H, m), 0.96 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 460 N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

25 The title compound 460 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 537 (M-1)

Compound 461 N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

30 The title compound 461 was produced in the same manner as in Example 5.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.27 (1H, s), 7.97 (1H, s), 7.91 (1H, d, J = 2.4 Hz), 7.89 (1H, d, J = 7.6 Hz), 7.70 (2H,

d, J = 8.5 Hz), 7.58 - 7.65 (2H, m), 7.52 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 6.84 (2H, d, J = 8.6 Hz), 3.88 (2H, s), 2.46 - 2.65 (8H, m), 0.96 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 537 (M-1)

- 5 Compound 462 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

The title compound 462 was produced in the same manner as in Example 5.

- 10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.62 (1H, d, J = 9.0 Hz), 8.36 (1H, s), 8.03 (1H, s), 7.93 (1H, d, J = 2.2 Hz), 7.88 - 7.93 (2H, m), 7.69 (1H, d, J = 10.0 Hz), 7.58 - 7.65 (3H, m), 7.42 - 7.52 (2H, m), 7.19 (1H, ddd, J = 2.0 Hz, J = 8.4 Hz, J = 8.4 Hz), 4.63 (2H, s), 4.33 (2H, t, J = 6.3 Hz), 2.67 (2H, t, J = 6.3 Hz), 2.18 (6H, s)

- 15 Mass spectrometric value (ESI-MS) 579, 581 (M-1)

Compound 463 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

The title compound 463 was produced in the same manner as in Example 5.

- 20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.62 (1H, d, J = 8.8 Hz), 8.36 (1H, s), 8.04 (1H, s), 7.87 - 7.94 (4H, m), 7.59 - 7.65 (2H, m), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.19 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 4.63 (2H, s), 4.32 (2H, t, J = 6.3 Hz), 2.67 (2H, t, J = 6.3 Hz), 2.18 (6H, s)

- 25 Mass spectrometric value (ESI-MS) 579 (M-1)

Compound 464 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

The title compound 464 was produced in the same manner as in Example 5.

- 30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 8.04 (1H, s), 7.88 - 7.94 (2H, m), 7.70 (1H, s), 7.59 - 7.64 (3H, m), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.25 - 7.36 (2H, m), 4.63 (2H, s), 4.32 (2H, s), 2.66 (2H, t, J = 6.4 Hz), 2.39 (3H, s), 2.17 (6H, s)

- 35 Mass spectrometric value (ESI-MS) 575 (M-1)

Compound 465 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-

phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

The title compound 465 was produced in the same manner as in Example 5.

5 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 8.04 (1H, s), 7.88 - 7.94 (2H, m), 7.73 (2H, d, J = 8.1 Hz), 7.61 (2H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.27 (2H, d, J = 8.1 Hz), 4.63 (2H, s), 4.32 (2H, t, J = 6.3 Hz), 2.67 (2H, t, J = 6.3 Hz), 2.38 (3H, s), 2.17 (6H, s)

10 Mass spectrometric value (ESI-MS) 575 (M-1)

Compound 466 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

The title compound 466 was produced in the same manner as in Example 5.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 8.8 Hz), 8.30 (1H, s), 8.04 (1H, s), 7.89 - 7.95 (2H, m), 7.59 - 7.68 (3H, m), 7.54 (1H, d, J = 8.0 Hz), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.21 (1H, d), 4.63 (2H, s), 4.32 (2H, t, J = 6.3 Hz), 2.66 (2H, t, J = 6.3 Hz), 2.32 (3H, s), 2.31 (3H, s),  
20 2.17 (6H, s)

Mass spectrometric value (ESI-MS) 589, 591 (M-1)

Compound 467 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

25 The title compound 467 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.60 (1H, d, J = 9.0 Hz), 8.39 (1H, s), 8.31 (1H, s), 8.02 - 8.07 (2H, m), 7.93 (1H, d, J = 2.2 Hz), 7.89 (1H, d, J = 7.8 Hz), 7.69 (1H, d, J = 8.3 Hz), 7.62 (2H, dd, J = 2.2 Hz, J = 8.8 Hz),  
30 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 4.63 (2H, s), 4.32 (2H, t, J = 6.4 Hz), 3.44 (1H, s), 2.67 (2H, t, J = 6.3 Hz), 2.18 (6H, s)

Mass spectrometric value (ESI-MS) 663 (M-1)

Compound 468 N-[4-Chloro-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide  
35

The title compound 468 was produced in the same manner as in

## Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 8.04 (1H, s), 7.94 (1H, d, J = 2.4 Hz), 7.91 (1H, d, J = 8.3 Hz), 7.60 - 7.66 (2H, m), 7.57 (1H, s), 7.49 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.28 - 7.38 (2H, m), 6.98 - 7.04 (1H, m), 4.63 (2H, s), 4.32 (2H, t, J = 6.4 Hz), 3.86 (3H, s), 3.44 (1H, s), 2.67 (2H, t, J = 6.3 Hz), 2.17 (6H, s)

Mass spectrometric value (ESI-MS) 591 (M-1)

Compound                      469                      N-[4-Chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

The title compound 469 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 8.04 (1H, s), 7.88 - 7.94 (2H, m), 7.79 (2H, d, J = 8.8 Hz), 7.58 - 7.64 (2H, m), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.99 (2H, d, J = 8.8 Hz), 4.63 (2H, s), 4.32 (2H, t, J = 6.3 Hz), 3.84 (3H, s), 3.45 (1H, s), 2.67 (2H, t, J = 6.3 Hz), 2.18 (6H, s)

Mass spectrometric value (ESI-MS) 591 (M-1)

Compound                      470                      N-[4-Chloro-2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

The title compound 470 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.62 (1H, d, J = 8.8 Hz), 8.29 (1H, s), 8.04 (1H, s), 7.89 - 7.95 (2H, m), 7.55 - 7.65 (2H, m), 7.48 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.31 (1H, s), 7.22 - 7.29 (2H, m), 6.86 - 6.90 (1H, m), 4.63 (2H, s), 4.32 (2H, s), 2.67 (2H, t, J = 6.3 Hz), 2.17 (6H, s)

Mass spectrometric value (ESI-MS) 577 (M-1)

Compound                      471                      N-[4-Chloro-2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[1-(2-dimethylamino-ethyl)-1H-tetrazol-5-ylsulfanylmethyl]-benzamide

The title compound 471 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.27 (1H, s), 8.04 (1H, s), 7.87 - 7.93 (2H, m), 7.69 (2H, d, J = 8.5 Hz), 7.57 - 7.63 (2H, m), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.84 (2H, d, J = 8.5 Hz),

4.63 (2H, s), 4.32 (2H, t, J = 6.4 Hz), 2.67 (2H, t, J = 6.4 Hz), 2.17 (6H, s)

Mass spectrometric value (ESI-MS) 577 (M-1)

Compound 472 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 472 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.36 (1H, s), 8.23 (1H, s), 7.97 (1H, s), 7.88 - 7.95 (2H, m), 7.68 (1H, d, J = 9.5 Hz), 7.42 - 7.63 (5H, m), 7.18 (1H, dd, J = 8.4 Hz, J = 8.4 Hz), 3.67 (2H, s), 2.78 (2H, t, J = 7.1 Hz), 2.65 (4H, q, J = 7.2 Hz), 2.58 (2H, t, J = 7.2 Hz), 2.28 (3H, s), 1.04 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 628 (M-1)

Compound 473 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 473 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.36 (1H, s), 8.21 (1H, d, J = 1.9 Hz), 7.86 - 7.99 (5H, m), 7.60 (1H, d, J = 7.6 Hz), 7.52 (1H, dd, J = 8.8 Hz, J = 8.8 Hz), 7.18 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 3.67 (2H, s), 2.77 (2H, t, J = 7.1 Hz), 2.64 (4H, q, J = 7.2 Hz), 2.58 (2H, t, J = 7.2 Hz), 2.28 (3H, s), 1.04 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 628 (M-1)

Compound 474 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-iodo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 474 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.45 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 8.22 (1H, d, J = 1.1 Hz), 7.97 (1H, s), 7.88 - 7.93 (2H, m), 7.69 (1H, s), 7.58 - 7.63 (2H, m), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.32 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.25 (1H, d, J = 7.3 Hz), 3.66 (2H, s), 2.67 - 2.73 (2H, m), 2.52 - 2.61 (6H, m), 2.38 (3H, s), 2.27 (3H, s), 1.01 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 624 (M-1)

Compound 475 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-iodo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 475 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 8.21 (1H, d, J = 2.0 Hz), 7.97 (1H, s), 7.89 - 7.94 (2H, m), 7.72 (2H, d, J = 8.0 Hz), 7.60 (1H, d, J = 7.6 Hz), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.26 (2H, d, J = 7.8 Hz), 3.67 (2H, s), 2.75 (2H, t, J = 7.2 Hz), 2.62 (4H, q, J = 7.2 Hz), 2.57 (2H, t, J = 7.2 Hz), 2.37 (3H, s), 2.28 (3H, s), 1.03 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 624 (M-1)

10 Compound 476 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 476 was produced in the same manner as in Example 5.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.30 (1H, s), 8.20 (1H, d, J = 2.0 Hz), 7.97 (1H, s), 7.90 (2H, dd, J = 2.0 Hz, J = 8.8 Hz), 7.58 - 7.66 (2H, m), 7.48 - 7.56 (2H, m), 7.19 (1H, d, J = 7.8 Hz), 3.66 (2H, s), 2.68 - 2.75 (2H, m), 2.53 - 2.64 (6H, m), 2.30 (3H, s), 2.29 (3H, s), 2.27 (3H, s), 1.02 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 638 (M-1)

20 Compound 477 N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 477 was produced in the same manner as in Example 5.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.43 (1H, d, J = 8.8 Hz), 8.38 (1H, s), 8.32 (1H, s), 8.25 (1H, s), 8.02 (1H, d, J = .6 Hz), 7.97 (1H, s), 7.88 - 7.94 (2H, m), 7.67 (1H, d, J = 8.5 Hz), 7.60 (1H, d, J = 7.3 Hz), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 3.66 (2H, s), 2.75 (2H, t, J = 7.2 Hz), 2.62 (4H, q, J = 7.2 Hz), 2.56 (2H, t, J = 7.2 Hz), 2.27 (3H, s), 1.03 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 712 (M-1)

Compound 478 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-iodo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

35 The title compound 478 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.33 (1H, s),



8.22 (1H, d, J = 2.0 Hz), 7.97 (1H, s), 7.88 - 7.94 (2H, m), 7.60 (1H, d, J = 7.6 Hz), 7.56 (1H, bs), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.22 - 7.36 (2H, m), 6.97 - 7.03 (1H, m), 3.86 (3H, s), 3.66 (2H, s), 2.71 (2H, t, J = 7.2 Hz), 2.53 - 2.62 (6H, m), 2.27 (3H, s), 1.02 (6H, t, J = 7.2 Hz)

5 Mass spectrometric value (ESI-MS) 640 (M-1)

Compound 479 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-iodo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 479 was produced in the same manner as in Example 5.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.45 (1H, d, J = 8.8 Hz), 8.31 (1H, s), 8.20 (1H, d, J = 2.2 Hz), 7.97 (1H, s), 7.88 - 7.94 (2H, m), 7.78 (2H, d, J = 8.8 Hz), 7.60 (1H, d, J = 7.6 Hz), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.99 (2H, d, J = 8.8 Hz), 3.84 (3H, s), 3.67 (2H, s), 2.73 (2H, t, J = 7.2 Hz), 2.60 (4H, q, J = 7.2 Hz), 2.54 - 2.60 (2H, m), 2.28 (3H, s), 1.03 (6H, t, J = 7.2 Hz)

15 Mass spectrometric value (ESI-MS) 640 (M-1)

Compound 480 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(3-hydroxy-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 480 was produced in the same manner as in Example 5.

20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.29 (1H, s), 8.21 (1H, d, J = 2.0 Hz), 7.97 (1H, s), 7.88 - 7.94 (2H, m), 7.60 (1H, d, J = 7.6 Hz), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.30 (1H, s), 7.20 - 7.28 (2H, m), 6.87 (1H, ddd, J = 2.2 Hz, J = 2.2 Hz, J = 7.1 Hz), 3.66 (2H, s), 2.72 (2H, t, J = 7.2 Hz), 2.59 (4H, q, J = 7.2 Hz), 2.56 (2H, t, J = 6.8 Hz), 2.27 (3H, s), 1.02 (6H, t, J = 7.2 Hz)

25 Mass spectrometric value (ESI-MS) 626 (M-1)

Compound 481 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(4-hydroxy-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

30 The title compound 481 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.45 (1H, d, J = 8.8 Hz), 8.27 (1H, s), 8.19 (1H, d, J = 2.0 Hz), 7.97 (1H, s), 7.88 - 7.95 (2H, m), 7.69 (1H, d, J = 8.5 Hz), 7.52 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 6.83 (2H, d, J = 8.5 Hz), 3.67 (2H, s), 2.75 (2H, t, J = 7.2 Hz), 2.62 (4H, q, J = 7.2 Hz), 2.75 - 2.64 (2H, m), 2.28 (3H, s), 1.03 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 626 (M-1)

Compound 482 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[2-(3-fluorobenzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 482 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.36 (1H, s), 8.22 (1H, d, J = 2.0 Hz), 7.87 - 7.97 (4H, m), 7.42 - 7.72 (4H, m), 7.14 - 7.23 (1H, m), 3.61 (2H, s), 2.98 (2H, d, J = 11.5 Hz), 2.60 (4H, bs), 2.30 - 2.40 (1H, m), 2.05 (2H, t, J = 11.2 Hz), 1.82 - 1.91 (2H, m), 1.55 - 1.66 (6H, m), 1.40 - 1.50 (2H, m)

Mass spectrometric value (ESI-MS) 666 (M-1)

Compound 483 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[2-(4-fluorobenzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 483 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.43 (1H, d, J = 8.8 Hz), 8.35 (1H, s), 8.21 (1H, d, J = 2.0 Hz), 7.85 - 7.97 (5H, m), 7.58 (1H, d, J = 7.8 Hz), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.18 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 3.61 (2H, s), 2.98 (2H, d, J = 12.0 Hz), 2.59 (4H, bs), 2.25 - 2.38 (1H, m), 2.05 (2H, t, J = 11.5 Hz), 1.85 (2H, d, J = 12.7 Hz), 1.54 - 1.66 (6H, m), 1.40 - 1.50 (2H, m)

Mass spectrometric value (ESI-MS) 666 (M-1)

Compound 484 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-iodo-2-(3-methylbenzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 484 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.34 (1H, s), 8.21 (1H, d, J = 1.9 Hz), 7.88 - 7.97 (3H, m), 7.68 (1H, s), 7.55 - 7.64 (2H, m), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.21 - 7.34 (2H, m), 3.60 (2H, s), 2.97 (2H, d, J = 10.8 Hz), 2.54 (4H, bs), 2.38 (3H, s), 2.25 - 2.35 (1H, m), 2.25 - 2.35 (1H, m), 2.03 (2H, t, J = 11.7 Hz), 1.83 (2H, d, J = 12.4 Hz), 1.50 - 1.65 (6H, m), 1.38 - 1.48 (2H, m)

Mass spectrometric value (ESI-MS) 662 (M-1)

Compound 485 3-[1,4']Bipiperidinyl-1'-ylmethyl-N-[4-iodo-2-(4-methylbenzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 485 was produced in the same manner as in

Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 8.21 (1H, d, J = 2.0 Hz), 7.87 - 7.97 (3H, m), 7.72 (2H, d, J = 8.1 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.51 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.26 (2H, d, J = 8.1 Hz), 3.61 (2H, s), 2.98 (2H, d, J = 11.0 Hz), 2.55 (4H, bs), 2.37 (3H, s), 2.23 - 2.35 (1H, m), 2.05 (2H, t, J = 11.7 Hz), 1.84 (2H, d, J = 12.0 Hz), 1.53 - 1.66 (6H, m), 1.40 - 1.50 (2H, m)

Mass spectrometric value (ESI-MS) 662 (M-1)

Compound 486 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 486 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.30 (1H, s), 8.19 (1H, d, J = 2.2 Hz), 7.87 - 7.96 (3H, m), 7.62 (1H, s), 7.57 (1H, d, J = 7.6 Hz), 7.51 (2H, d, J = 7.6 Hz), 7.15 - 7.22 (1H, m), 3.60 (2H, s), 2.92 - 3.02 (2H, m), 2.52 (4H, bs), 2.29 (3H, s), 2.27 (3H, s), 2.20 - 2.33 (1H, m), 1.98 - 2.09 (2H, m), 1.78 - 2.87 (2H, m), 1.50 - 1.65 (6H, m), 1.38 - 1.48 (2H, m)

Mass spectrometric value (ESI-MS) 676 (M-1)

Compound 487 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 487 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.38 - 8.45 (2H, m), 8.24 (1H, s), 8.24 (1H, s), 8.03 (1H, d, J = 8.0 Hz), 7.87 - 7.97 (3H, m), 7.68 (1H, d, J = 8.3 Hz), 7.58 (1H, d, J = 6.8 Hz), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 3.61 (2H, s), 2.98 (2H, d, J = 10.5 Hz), 2.59 (4H, s), 2.28 - 2.38 (1H, m), 2.04 (2H, t, J = 11.7 Hz), 1.80 - 1.90 (2H, m), 1.55 - 1.65 (6H, m), 1.41 - 1.50 (2H, m)

Mass spectrometric value (ESI-MS) 750 (M-1)

Compound 488 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-iodo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 488 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.34 (1H, s),

8.21 (1H, d, J = 2.0 Hz), 7.87 - 7.97 (3H, m), 7.48 - 7.60 (3H, m), 7.27 - 7.36 (2H, m), 6.96 - 7.03 (1H, m), 3.85 (3H, s), 3.60 (2H, s), 2.97 (2H, d, J = 11.2 Hz), 2.55 (4H, bs), 2.23 - 2.33 (1H, m), 2.03 (2H, t, J = 11.6 Hz), 1.83 (2H, d, J = 11.2 Hz), 1.53 - 1.65 (6H, m), 1.40 - 1.50 (2H, m)

5 Mass spectrometric value (ESI-MS) 678 (M-1)

Compound 489 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-iodo-2-(4-methoxybenzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 489 was produced in the same manner as in Example 5.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.32 (1H, s), 8.18 - 8.22 (1H, m), 7.87 - 7.97 (3H, m), 7.75 - 7.82 (2H, m), 7.55 - 7.62 (1H, m), 7.45 - 7.55 (1H, m), 6.95 - 7.03 (2H, m), 3.84 (3H, s), 3.61 (2H, s), 2.93 - 3.02 (2H, m), 2.56 (4H, bs), 2.20 - 2.35 (1H, m), 2.00 - 2.10 (2H, m), 1.80 - 1.88 (2H, m), 1.55 - 1.65 (6H, m), 1.40 - 1.50 (2H, m)

15 Mass spectrometric value (ESI-MS) 678 (M-1)

Compound 490 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[2-(3-hydroxybenzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 490 was produced in the same manner as in Example 5.

20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.43 (1H, d, J = 8.8 Hz), 8.29 (1H, s), 8.19 - 8.22 (1H, m), 7.87 - 7.97 (3H, m), 7.57 (1H, d, J = 7.3 Hz), 7.47 - 7.53 (1H, m), 7.30 (1H, s), 7.18 - 7.27 (2H, m), 6.83 - 6.89 (1H, m), 3.61 (2H, s), 2.98 (2H, d, J = 10.5 Hz), 2.56 (4H, bs), 2.25 - 2.35 (1H, m), 2.04 (2H, t, J = 12.0 Hz), 1.84 (2H, d, J = 12.0 Hz), 1.53 - 1.66 (6H, m),  
25 1.40 - 1.50 (2H, m)

Mass spectrometric value (ESI-MS) 664 (M-1)

Compound 491 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[2-(4-hydroxybenzylidene-hydrazinocarbonyl)-4-iodo-phenyl]-benzamide

The title compound 491 was produced in the same manner as in Example 5.

30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, dd, J = 3.7 Hz, J = 8.8 Hz), 8.27 (1H, s), 8.18 (1H, bs), 7.86 - 7.96 (3H, m), 7.65 - 7.72 (2H, m), 7.54 - 7.61 (1H, m), 7.47 - 7.54 (1H, m), 6.79 - 6.86 (2H, m), 3.59 - 3.64 (2H, m), 2.93 - 3.03 (4H, m), 2.57 (4H, bs), 2.25 - 2.37 (1H, m), 1.95 - 2.10 (2H, m), 1.80 - 1.90 (2H, m), 1.58 (6H, bs), 1.45 (2H, bs)

Mass spectrometric value (ESI-MS) 664 (M-1)

Compound 492 N-{4-Chloro-2-[N'-(3,4-dimethyl-benzyl)-hydrazinocarbonyl]-phenyl}-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 492 was produced in the same manner as in Example 5.

- 5  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.60 (1H, d,  $J = 8.8$  Hz), 7.90 (1H, s), 7.78 (1H, d,  $J = 7.6$  Hz), 7.59 - 7.70 (2H, m), 7.45 - 7.55 (2H, m), 7.09 - 7.13 (2H, m), 7.01 (1H, d,  $J = 7.8$  Hz), 3.96 (2H, s), 3.86 (2H, s), 3.67 (2H, t,  $J = 6.8$  Hz), 2.58 (2H, t,  $J = 6.8$  Hz), 2.16 (3H, s), 2.09 (3H, s)  
Mass spectrometric value (ESI-MS) 496, 498, 499 (M-1)

10 Compound 493 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-ethanesulfonylmethyl)-benzamide

The title compound 493 was produced in the same manner as in Example 6.

- 15  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.67 (1H, d,  $J = 9.0$  Hz), 8.31 (1H, s), 8.11 (1H, s), 8.04 (1H, d,  $J = 8.0$  Hz), 7.94 (1H, d,  $J = 2.4$  Hz), 7.73 (1H, d,  $J = 8.0$  Hz), 7.67 (1H, s), 7.58 - 7.64 (2H, m), 7.54 (1H, d,  $J = 7.3$  Hz), 7.21 (1H, d,  $J = 7.6$  Hz), 4.63 (2H, s), 4.06 (2H, t,  $J = 5.6$  Hz), 3.20 (2H, t,  $J = 5.7$  Hz), 2.32 (3H, s), 2.32 (3H, s)  
20 Mass spectrometric value (ESI-MS) 526, 528, 529 (M-1)

Compound 494 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-methyl-benzamide

The title compound 494 was produced in the same manner as in Example 5.

- 25  $^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  8.52 (1H, d,  $J = 8.8$  Hz), 8.33 (1H, s), 7.93 (2H, d,  $J = 7.8$  Hz), 7.65 - 7.74 (3H, m), 7.54 (1H, d,  $J = 8.5$  Hz), 7.21 - 7.30 (4H, m), 2.24 (3H, s), 2.38 (3H, s)  
Mass spectrometric value (ESI-MS) 448, 450 (M-1)

30 Compound 495 Pyridin-2-carboxylic acid[4-bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 495 was produced in the same manner as in Example 5.

- $^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  8.72 (1H, s), 8.67 (1H, d,  $J = 9.0$  Hz), 8.28 (1H, s), 8.22 (1H, d,  $J = 7.8$  Hz), 7.86 - 7.92 (2H, m), 7.66 (1H, dd,  $J = 2.2$  Hz,  $J = 8.8$  Hz), 7.51 - 7.60 (2H, m), 7.46 - 7.51 (1H, m), 7.33 - 7.39 (1H, m), 7.03 - 7.10 (1H, m)

Mass spectrometric value (ESI-MS) 439, 441 (M-1)

Compound 496 Pyridin-2-carboxylic acid [4-bromo-2-(4-fluorobenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 496 was produced in the same manner as in

5 Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.70 (1H, d, J = 4.1 Hz), 8.65 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 8.21 (1H, d, J = 7.8 Hz), 7.84 - 7.91 (2H, m), 7.74 - 7.81 (2H, m), 7.61 - 7.66 (1H, m), 7.44 - 7.50 (1H, m), 7.06 (2H, dd, J = 8.5 Hz, J = 8.5 Hz)

10 Mass spectrometric value (ESI-MS) 439, 441 (M-1)

Compound 497 Pyridin-2-carboxylic acid [4-bromo-2-(3-methylbenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 497 was produced in the same manner as in Example 5.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.69 (1H, s), 8.65 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 8.22 (1H, d, J = 7.8 Hz), 7.79 - 7.89 (2H, m), 7.57 - 7.66 (2H, m), 7.48 - 7.54 (1H, m), 7.41 - 7.46 (1H, m), 7.21 - 7.27 (1H, m), 7.11 - 7.17 (1H, m), 2.35 (3H, s)

Mass spectrometric value (ESI-MS) 435, 437 (M-1)

20 Compound 498 Pyridin-2-carboxylic acid [4-bromo-2-(4-methylbenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 498 was produced in the same manner as in Example 5.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.63 (1H, d, J = 3.9 Hz), 8.58 (1H, d, J = 9.0 Hz), 8.24 (1H, s), 8.16 (1H, d, J = 8.1 Hz), 7.77 - 7.84 (2H, m), 7.52 - 7.62 (3H, m), 7.37 - 7.42 (1H, m), 7.11 (2H, d, J = 8.1 Hz), 2.25 (3H, s)

Mass spectrometric value (ESI-MS) 435, 437 (M-1)

Compound 499 Pyridin-2-carboxylic acid [4-bromo-2-(3,4-dimethylbenzylidene-hydrazinocarbonyl)-phenyl]-amide

30 The title compound 499 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.69 (1H, s), 8.65 (1H, d, J = 9.0 Hz), 8.24 (1H, s), 8.21 (1H, d, J = 7.8 Hz), 7.80 - 7.89 (2H, m), 7.57 - 7.63 (2H, m), 7.42 - 7.47 (2H, m), 7.12 (1H, d, J = 7.6 Hz), 2.26 (3H, s), 2.21 (3H, s)

35 Mass spectrometric value (ESI-MS) 449, 451 (M-1)

Compound 500 Pyridin-2-carboxylic acid [4-bromo-2-(4-chloro-3-

trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 500 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.63 (1H, s), 8.59 (1H, d, J = 8.8 Hz), 8.24 (1H, s), 8.14 (1H, d, J = 7.8 Hz), 7.97 (1H, s), 7.92 (1H, d, J = 7.8 Hz), 7.78 - 7.84 (2H, m), 7.58 (1H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.45 (1H, d, J = 8.3 Hz), 7.38 - 7.43 (1H, m)

Mass spectrometric value (ESI-MS) 523, 525 (M-1)

Compound 501 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethoxy-benzamide

The title compound 501 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.52 (1H, d, J = 8.8 Hz), 8.35 (1H, s), 7.99 (2H, d, J = 8.5 Hz), 7.71 (1H, s), 7.51 - 7.60 (3H, m), 7.35 - 7.42 (1H, m), 7.09 - 7.15 (1H, m), 6.95 - 6.99 (2H, m), 4.10 (2H, q, J = 7.0 Hz), 1.45 (3H, t, J = 7.0 Hz)

Mass spectrometric value (ESI-MS) 482, 484 (M-1)

Compound 502 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethoxy-benzamide

The title compound 502 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.53 (1H, d, J = 9.0 Hz), 8.25 (1H, s), 7.92 (2H, d, J = 8.8 Hz), 7.70 - 7.79 (3H, m), 7.55 (1H, dd, J = 9.0 Hz, J = 2.2 Hz), 7.00 - 7.09 (2H, m), 6.87 - 6.94 (2H, m), 4.04 (2H, q, J = 7.0 Hz), 1.39 (3H, t, J = 7.0 Hz)

Mass spectrometric value (ESI-MS) 482, 484 (M-1)

Compound 503 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-ethoxy-benzamide

The title compound 503 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.56 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 7.99 (2H, d, J = 8.5 Hz), 7.71 (2H, s), 7.69 (1H, s), 7.53 - 7.59 (1H, m), 7.22 (2H, d, J = 8.1 Hz), 6.96 (2H, d, J = 8.8 Hz), 4.09 (2H, q, J = 7.0 Hz), 2.38 (3H, s), 1.44 (3H, t, J = 7.0 Hz)

Mass spectrometric value (ESI-MS) 478, 480 (M-1)

Compound 504 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-

hydrazinocarbonyl)-phenyl]-4-ethoxy-benzamide

The title compound 504 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.48 (1H, d, J = 8.5 Hz), 8.33 (1H, s), 7.99 (2H, d, J = 8.1 Hz), 7.69 (1H, s), 7.63 (1H, s), 7.45 - 7.56 (2H, m), 7.16 (1H, d, J = 7.8 Hz), 6.92 - 6.98 (2H, m), 4.08 (2H, q, J = 6.9 Hz), 2.29 (3H, s), 2.27 (3H, s), 1.44 (3H, t, J = 6.8 Hz)

Mass spectrometric value (ESI-MS) 492, 494 (M-1)

Compound 505 Pyridin-2-carboxylic acid [2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 505 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.65 - 8.76 (2H, m), 8.20 - 8.28 (2H, m), 7.86 - 7.92 (1H, m), 7.65 - 7.72 (1H, m), 7.50 - 7.61 (3H, m), 7.43 - 7.50 (1H, m), 7.31 - 7.38 (1H, m), 7.10 - 7.20 (1H, m), 7.02 - 7.10 (1H, m)

Mass spectrometric value (ESI-MS) 361 (M-1)

Compound 506 Pyridin-2-carboxylic acid [2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 506 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.65 - 8.75 (2H, m), 8.20 - 8.28 (2H, m), 7.88 (1H, dd, J = 1.7 Hz, J = 7.7 Hz), 7.74 - 7.83 (2H, m), 7.63 - 7.70 (1H, m), 7.51 - 7.59 (1H, m), 7.43 - 7.49 (1H, m), 7.09 - 7.19 (1H, m), 7.06 (2H, dd, J = 8.5 Hz, J = 8.5 Hz)

Mass spectrometric value (ESI-MS) 361 (M-1)

Compound 507 Pyridin-2-carboxylic acid [2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 507 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.65 - 8.74 (2H, m), 8.23 (1H, d, J = 7.6 Hz), 8.20 (1H, s), 7.87 (1H, ddd, J = 1.7 Hz, J = 7.7 Hz, J = 7.7 Hz), 7.63 - 7.69 (1H, m), 7.57 - 7.63 (1H, m), 7.49 - 7.57 (1H, m), 7.42 - 7.49 (2H, m), 7.07 - 7.15 (2H, m), 2.26 (3H, s), 2.24 (3H, s)

Mass spectrometric value (ESI-MS) 371 (M-1)

Compound 508 Pyridin-2-carboxylic acid [2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide



The title compound 508 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.67 - 8.73 (2H, m), 8.29 (1H, s), 8.23 (1H, d, J = 7.8 Hz), 7.96 - 8.05 (2H, m), 7.89 (1H, ddd, J = 1.7 Hz, J = 7.7 Hz, J = 7.7 Hz), 7.70 (1H, d, J = 7.1 Hz), 7.46 - 7.59 (3H, m), 7.11 - 7.18 (1H, m)

Mass spectrometric value (ESI-MS) 445 (M-1)

Compound 509 Cyclohexanecarboxylic acid [4-bromo-2-(3-fluorobenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 509 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.49 (1H, d, J = 9.0 Hz), 8.22 - 8.29 (1H, m), 7.48 - 7.68 (3H, m), 7.35 - 7.44 (2H, m), 7.12 - 7.18 (1H, m), 2.27 - 2.36 (1H, m), 1.97 - 2.04 (2H, m), 1.79 - 1.87 (2H, m), 1.66 - 1.73 (1H, m), 1.45 - 1.52 (1H, m), 1.21 - 1.38 (4H, m)

Mass spectrometric value (ESI-MS) 444, 446 (M-1)

Compound 510 Isoxazole-5-carboxylic acid [4-bromo-2-(3-fluorobenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 510 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.59 (1H, d, J = 8.8 Hz), 8.39 (1H, d, J = 2.0 Hz), 8.31 (1H, s), 7.92 (1H, s), 7.63 (1H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.51 - 7.59 (2H, m), 7.34 - 7.41 (1H, m), 7.07 - 7.13 (1H, m), 7.03 (1H, d, J = 1.7 Hz)

Mass spectrometric value (ESI-MS) 429, 431 (M-1)

Compound 511 Isoxazole-5-carboxylic acid [4-bromo-2-(3-methylbenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 511 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.58 (1H, d, J = 9.0 Hz), 8.39 (1H, d, J = 2.0 Hz), 8.29 (1H, s), 7.93 (1H, d, J = 1.7 Hz), 7.63 - 7.70 (2H, m), 7.55 (1H, d, J = 7.8 Hz), 7.17 - 7.31 (2H, m), 7.03 (1H, d, J = 1.7 Hz), 2.38 (3H, s)

Mass spectrometric value (ESI-MS) 425, 427 (M-1)

Compound 512 Isoxazole-5-carboxylic acid [4-bromo-2-(3,4-dimethylbenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 512 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.59 (1H, d, J = 8.8 Hz), 8.40 (1H, d, J = 1.7 Hz), 8.26 (1H, s), 7.96 (1H, d, J = 2.2 Hz), 7.68 (1H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.63 (1H, s), 7.51 (1H, d, J = 7.3 Hz), 7.18 (1H, d, J = 7.8 Hz), 7.05 (1H, d, J = 1.7 Hz), 2.30 (3H, s), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 439, 441 (M-1)

Compound 513 Isoxazole-5-carboxylic acid [4-bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 513 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.60 (1H, d, J = 9.0 Hz), 8.42 (1H, d, J = 1.7 Hz), 8.35 (1H, s), 8.10 (1H, s), 8.04 (1H, d, J = 8.3 Hz), 7.97 - 8.01 (1H, m), 7.70 (1H, dd, J = 2.3 Hz, J = 8.9 Hz), 7.58 (1H, d, J = 8.3 Hz), 7.06 (1H, d, J = 1.7 Hz)

Mass spectrometric value (ESI-MS) 513, 515 (M-1)

Compound 514 2,5-Dimethyl-furan-3-carboxylic acid [2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 514 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.56 (1H, d, J = 8.5 Hz), 8.27 (1H, s), 7.46 - 7.68 (4H, m), 7.35 - 7.42 (1H, m), 7.04 - 7.14 (2H, m), 6.39 (1H, s), 2.62 (3H, s), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 378 (M-1)

Compound 515 2,5-Dimethyl-furan-3-carboxylic acid [2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 515 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.54 (1H, d, J = 8.3 Hz), 8.27 (1H, s), 7.76 - 7.85 (2H, m), 7.61 (1H, d, J = 7.6 Hz), 7.48 (1H, t, J = 7.8 Hz), 7.01 - 7.16 (3H, m), 6.38 (1H, s), 2.62 (3H, s), 2.28 (3H, s)

Mass spectrometric value (ESI-MS) 378 (M-1)

Compound 516 2,5-Dimethyl-furan-3-carboxylic acid [2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 516 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.56 (1H, d, J = 8.1 Hz), 8.27 (1H, s), 7.67 - 7.74 (1H, m), 7.40 - 7.60 (4H, m), 7.28 - 7.35 (1H, m), 6.96 - 7.04 (1H, m), 6.38 (1H, s), 2.64 (3H, s), 2.40 (3H, s), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 374 (M-1)

- 5 Compound 517 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3,4-dimethoxy-benzamide

The title compound 517 was produced in the same manner as in Example 5.

10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.15 (1H, s), 7.62 - 7.69 (2H, m), 7.58 (1H, d, J = 9.3 Hz), 7.52 (1H, d, J = 7.6 Hz), 7.37 - 7.44 (1H, m), 7.10 - 7.17 (1H, m), 6.93 (1H, d, J = 8.3 Hz), 6.53 (1H, s), 3.98 (3H, s), 3.96 (3H, s), 2.60 (3H, s)

Mass spectrometric value (ESI-MS) 440 (M-1)

- 15 Compound 518 3,4-Dimethoxy-N-[4-methyl-3-(3-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 518 was produced in the same manner as in Example 5.

20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.10 (1H, s), 7.63 - 7.72 (3H, m), 7.54 (1H, d, J = 7.6 Hz), 7.24 - 7.35 (2H, m), 6.92 (1H, d, J = 8.3 Hz), 6.53 (1H, s), 3.98 (3H, s), 3.96 (3H, s), 2.61 (3H, s), 2.40 (3H, s)

Mass spectrometric value (ESI-MS) 436 (M-1)

- Compound 519 3,4-Dimethoxy-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

25 The title compound 519 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.10 (1H, s), 7.63 - 7.73 (4H, m), 7.22 - 7.28 (2H, m), 6.92 (1H, d, J = 8.1 Hz), 6.54 (1H, s), 3.98 (3H, s), 3.96 (3H, s), 2.61 (3H, s), 2.40 (3H, s)

Mass spectrometric value (ESI-MS) 436 (M-1)

- 30 Compound 521 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3,4-dimethoxy-benzamide

The title compound 521 was produced in the same manner as in Example 5.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.07 (1H, s), 7.63 - 7.70 (3H, m), 7.47 (1H, d, J = 8.5 Hz), 7.19 (1H, d, J = 7.8 Hz), 6.92 (1H, d, J = 8.5 Hz), 6.54 (1H, s), 3.98 (3H, s), 3.96 (3H, s), 2.61 (3H, s), 2.31 (6H, s)

Mass spectrometric value (ESI-MS) 450 (M-1)

Compound 522 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3,4-dimethoxy-benzamide

The title compound 522 was produced in the same manner as in

5 Example 5.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.23 (1H, s), 8.05 - 8.08 (1H, m), 7.93 - 7.98 (1H, m), 7.62 - 7.68 (2H, m), 7.58 (1H, d, J = 8.5 Hz), 6.92 - 7.68 (2H, m), 7.58 (1H, d, J = 8.5 Hz), 6.92 - 6.97 (1H, m), 6.55 (1H, s), 3.98 (3H, s), 3.96 (3H, s), 2.61 (3H, s)

10 Mass spectrometric value (ESI-MS) 524 (M-1)

Compound 523 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 523 was produced in the same manner as in Example 5.

15 Mass spectrometric value (ESI-MS) 503 (M-1)

Compound 524 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 524 was produced in the same manner as in Example 5.

20 Mass spectrometric value (ESI-MS) 493 (M-1)

Compound 525 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 525 was produced in the same manner as in Example 5.

25 Mass spectrometric value (ESI-MS) 494 (M-1)

Compound 526 3-(3-Hydroxy-propylsulfanylmethyl)-N-[4-methyl-2-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 526 was produced in the same manner as in Example 5.

30 Mass spectrometric value (ESI-MS) 480 (M-1)

Compound 527 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 527 was produced in the same manner as in Example 5.

35 Mass spectrometric value (ESI-MS) 484 (M-1)

Compound 528 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[2-(4-

fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

The title compound 528 was produced in the same manner as in Example 5.

5 Mass spectrometric value (ESI-MS) 522 (M-1)

Compound 529 3-([(2-Diethylamino-ethyl)-methyl-amino]-methyl)-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

10 The title compound 529 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 522 (M-1)

Compound 530 3-([(2-Diethylamino-ethyl)-methyl-amino]-methyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

15 The title compound 530 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 534 (M-1)

Compound 531 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

20 The title compound 531 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 572 (M-1)

Compound 532 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

25 The title compound 532 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 532 (M-1)

Compound 533 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[4-methyl-2-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

30 The title compound 533 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 518 (M-1)

Compound 534 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

35 The title compound 534 was produced in the same manner as in

Example 5.

Mass spectrometric value (ESI-MS) 522 (M-1)

Compound 535 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

5        The title compound 535 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 522 (M-1)

Compound 536 3-[(2-Diethylamino-ethylamino)-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-

10 benzamide

The title compound 536 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 518 (M-1)

Compound 537 3-[(2-Diethylamino-ethylamino)-methyl]-N-[4-methyl-2-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

15        The title compound 537 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 504 (M-1)

Compound 538 3-[(2-Diethylamino-ethylamino)-methyl]-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

20        The title compound 538 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 508 (M-1)

Compound 539 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-[(2-diethylamino-ethylamino)-methyl]-benzamide

25        The title compound 539 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 592 (M-1)

Compound 540 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-methyl-2-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

30        The title compound 540 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 521 (M-1)

Compound 541 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

35

The title compound 541 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 503 (M-1)

Compound 542 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 542 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 493 (M-1)

Compound 543 3-(4-Hydroxy-piperidin-1-ylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

The title compound 543 was produced in the same manner as in Example 5.

Mass spectrometric value (ESI-MS) 505 (M-1)

Compound 544 Pyridin-2-carboxylic acid {4-bromo-2-[N'-(4-methyl-benzyl)-hydrazinocarbonyl]-phenyl}-amide

The title compound 544 was produced in the same manner as in Example 7.

Mass spectrometric value (ESI-MS) 439 (M-1)

Compound 545 N-{2-[N'-(4-Methyl-benzyl)-hydrazinocarbonyl]-phenyl}-isonicotinamide

The title compound 545 was produced in the same manner as in Example 7.

Mass spectrometric value (ESI-MS) 359 (M-1)

Compound 546 N-{4-Bromo-2-[N'-(4-chloro-3-trifluoromethyl-benzyl)-hydrazinocarbonyl]-phenyl}-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 546 was produced in the same manner as in Example 7.

Mass spectrometric value (ESI-MS) 614, 616, 617 (M-1)

Compound 547 N-{4-Chloro-2-[N'-(4-methyl-benzyl)-hydrazinocarbonyl]-phenyl}-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 547 was produced in the same manner as in Example 7.

Mass spectrometric value (ESI-MS) 483 (M-1)

Compound 548 N-{4-Bromo-2-[N'-(3,4-dimethyl-benzyl)-hydrazinocarbonyl]-phenyl}-3,4-dimethoxy-benzamide

The title compound 548 was produced in the same manner as in

## Example 7.

Mass spectrometric value (ESI-MS) 508, 510 (M-1)

Compound 549 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

5 The title compound 549 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.35 (1H, s), 8.07 (1H, s), 7.93 - 7.96 (1H, m), 7.85 - 7.96 (1H, m), 7.85 - 7.92 (1H, m), 7.71 - 7.76 (1H, m), 7.58 - 7.65 (3H, m), 7.40 - 7.54 (2H, m), 7.15 - 7.23  
10 (1H, m), 3.83 (2H, s), 3.61 - 3.67 (4H, m), 2.67 - 2.74 (4H, m)

Mass spectrometric value (ESI-MS) 511, 513 (M-1)

Compound 550 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

15 The title compound 550 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.35 (1H, s), 8.06 (1H, s), 7.87 - 7.95 (4H, m), 7.63 (1H, d, J = 8.8 Hz), 7.62 (1H, d, J = 8.8 Hz), 7.50 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.19 (2H, dd, J = 8.8 Hz), 3.83 (2H, s), 3.65 (4H, t, J = 5.9 Hz), 2.71 (4H, t, J = 5.9 Hz)

20 Mass spectrometric value (ESI-MS) 511, 513 (M-1)

Example 8

Compound 551 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

25 Ethyl 2-amino-4-methylthiophene-3-carboxylate (compound A) (3.0 g) was dissolved in anhydrous methylene chloride (40.0 ml). Subsequently, pyridine (1.5 ml) and 3-(chloromethyl) benzoyl chloride (compound B) (2.8 ml) were added to the solution, and the mixture was stirred at 0°C for one hr. After the completion of the reaction, distilled water was added, and the mixture was subjected to separatory  
30 extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give 2-(3-chloromethyl-benzoylamino-4-methyl-thiophene-3-carboxylic acid ethyl ester as a useful intermediate (3.80 g, yield 70%).

35 2-(3-Chloromethyl-benzoylamino-4-methyl-thiophene-3-carboxylic acid ethyl ester (700 mg) obtained by the above reaction was dissolved



in anhydrous methylene chloride (5.0 ml), triethylamine (580  $\mu$ l) and 3-mercapto-1,2,4-triazole (compound B') (404 mg) were added to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added at room temperature, and the reaction mixture was extracted by liquid separation using chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 4-methyl-2-[3(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzoylamino]-thiophene-3-carboxylic acid ethyl ester as a useful intermediate (606 mg, yield 72%).

4-Methyl-2-[3(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzoylamino]-thiophene-3-carboxylic acid ethyl ester produced by the above reaction was dissolved in ethanol (5.0 ml), hydrazine monohydrate (650  $\mu$ l) was added to the solution, and the mixture was heated under reflux with stirring for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give a hydrazine compound N-(3-hydrazinocarbonyl-4-methyl-thiophen-2-yl)-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide (103 mg, crude yield 20%).

N-(3-Hydrazinocarbonyl-4-methyl-thiophen-2-yl)-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide (20 mg) was dissolved in anhydrous toluene (1.0 ml), 3,4-dimethylbenzaldehyde (compound C) (13.0  $\mu$ l) was added to the solution at room temperature, and the mixture was heated under reflux with stirring for 15 hr. After the completion of the reaction, the reaction product was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 551 (17.4 mg, yield 69%).

$^1\text{H-NMR}$  (DMSO- $d_6$ , 400 MHz):  $\delta$  2.25 (6H, s), 2.37 (3H, s), 4.40 (2H, s), 6.79 (1H, s), 7.15 - 8.00 (7H, m), 8.28 (1H, s), 8.56 (1H, s), 11.20 - 11.70 (2H, m), 14.05 (1H, s)

Mass spectrometric value (ESI-MS) 503 (M-1)

Compound 552 N-[4-Methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 552 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.34 (3H, s), 2.37 (3H, s), 4.40 (2H, s), 6.80 (1H, s), 7.20 - 8.00 (8H, m), 8.30 (1H, m), 8.57 (1H, s), 11.30 - 11.70 (2H, m), 14.10 (1H, s)

Mass spectrometric value (ESI-MS) 489 (M-1)

Compound 553 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 553 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.36 (3H, s), 4.40 (2H, s), 6.81 (1H, s), 7.25 - 8.00 (8H, m), 8.40 (1H, m), 8.57 (1H, s), 11.30 - 11.70 (2H, m), 14.05 (1H, s)

Mass spectrometric value (ESI-MS) 493 (M-1)

Compound 554 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 554 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.35 (3H, s), 4.40 (2H, s), 6.81 (1H, s), 7.20 - 7.96 (8H, m), 8.36 (1H, s), 8.56 (1H, s), 11.40 - 11.75 (2H, m), 14.05 (1H, s)

Mass spectrometric value (ESI-MS) 493 (M-1)

Compound 555 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 555 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.34 (3H, s), 4.38 (2H, s), 6.82 (1H, s), 7.40 - 8.58 (9H, m), 11.40 - 11.75 (2H, m), 14.05 (1H, s)

Mass spectrometric value (ESI-MS) 577 (M-1)

Compound 556 N-[3-(4-Methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-benzamide

The title compound 556 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.37 (3H, s), 3.80 (3H, s), 4.40 (2H, s), 6.80 (1H, s), 7.01 (2H, m), 7.40 - 7.74 (6H, m), 8.35 (1H, s), 8.57 (1H, s),

11.20 - 11.75 (2H, m), 14.05 (1H, s)

Mass spectrometric value (ESI-MS) 505 (M-1)

Compound 557 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

5 The title compound 557 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 2.31 (6H, m), 2.50 (5H, m), 3.63 (2H, m), 3.82 (2H, s), 6.70 (1H, s), 7.19 (1H, d, J = 7.8 Hz), 7.45 - 7.67 (4H, m), 7.80 - 7.95 (2H, m), 8.22 (1H, s)

10 Mass spectrometric value (ESI-MS) 494 (M-1)

Compound 558 3-(3-Hydroxy-propylsulfanylmethyl)-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 558 was produced in substantially the same manner as in Example 8.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 2.38 (3H, s), 2.50 (5H, m), 3.60 (2H, t, J = 6.4 Hz), 3.82 (2H, s), 6.71 (1H, d, J = 0.96 Hz), 7.26 (2H, d, J = 7.6 Hz), 7.50 (1H, m), 7.60 (1H, m), 7.73 (2H, m), 7.84 (1H, m), 7.92 (1H, s), 8.26 (1H, s)

Mass spectrometric value (ESI-MS) 480 (M-1)

20 Compound 559 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 559 was produced in substantially the same manner as in Example 8.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 2.50 (5H, m), 3.62 (2H, m), 3.82 (2H, s), 6.71 (1H, s), 7.12 (2H, m), 7.50 (1H, m), 7.60 (1H, m), 7.87 (4H, m), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 484 (M-1)

Compound 560 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

30 The title compound 560 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 2.51 (5H, m), 3.60 (2H, t, J = 6.2 Hz), 3.82 (2H, s), 6.72 (1H, s), 7.18 (1H, m), 7.42 - 7.65 (5H, m), 7.84 (1H, s), 7.93 (1H, s), 8.29 (1H, s)

35 Mass spectrometric value (ESI-MS) 484 (M-1)

Compound 561 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-

hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 561 was produced in substantially the same manner as in Example 8.

5 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 2.50 (5H, m), 3.60 (2H, t, J = 6.1 Hz), 3.82 (2H, s), 6.72 (1H, s), 7.50 (1H, m), 7.61 (1H, d, J = 7.3 Hz), 7.68 (1H, d, J = 8.3 Hz), 7.84 (1H, m), 7.93 (1H, s), 8.05 (1H, m), 8.33 (2H, s)

Mass spectrometric value (ESI-MS) 568 (M-1)

10 Compound 562 3-(3-Hydroxy-propylsulfanylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 562 was produced in substantially the same manner as in Example 8.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 2.50 (5H, m), 3.60 (2H, t, J = 6.2 Hz), 3.81 (2H, s), 3.84 (3H, s), 6.70 (1H, d, J = 1.0 Hz), 6.99 (2H, d, J = 8.3 Hz), 7.50 (1H, m), 7.60 (1H, m), 7.80 (3H, m), 7.92 (1H, s), 8.23 (1H, m)

Mass spectrometric value (ESI-MS) 496 (M-1)

20 Compound 563 3-{[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 563 was produced in substantially the same manner as in Example 8.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.05 (6H, t, J = 7.2 Hz), 2.26 (3H, s), 2.30 (3H, s), 2.31 (3H, s), 2.50 (2H, m), 2.57 (2H, m), 2.67 (5H, m), 2.79 (2H, m), 3.65 (2H, s), 6.64 (1H, s), 7.19 (1H, d, J = 7.8 Hz), 7.46 - 7.65 (4H, m), 7.86 - 7.97 (2H, m), 8.21 (1H, s)

Mass spectrometric value (ESI-MS) 532 (M-1)

30 Compound 564 3-{[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 564 was produced in substantially the same manner as in Example 8.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.05 (6H, t, J = 7.3 Hz), 2.26 (3H, s), 2.38 (3H, s), 2.50 (2H, s), 2.57 (2H, m), 2.67 (5H, m), 2.78 (2H, m), 3.65 (2H, s), 6.63 (1H, s), 7.25 (2H, d, J = 7.8 Hz), 7.51 (1H, dd, J = 7.6 Hz, J =

7.6 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.72 (2H, m), 7.91 (2H, m), 8.25 (1H, s)

Mass spectrometric value (ESI-MS) 518 (M-1)

Compound 565 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-

5 benzamide

The title compound 565 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.05 (6H, m), 2.56 (3H, s), 2.49 (2H, m), 2.57 (2H, m), 2.66 (5H, m), 2.77 (2H, m), 3.64 (2H, s), 6.62 (1H, s), 7.16  
10 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 7.50 (2H, m), 7.91 (4H, m), 8.27 (1H, s)

Mass spectrometric value (ESI-MS) 522 (M-1)

Compound 566 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-

benzamide

15 The title compound 566 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.07 (6H, t, J = 7.2 Hz), 2.26 (3H, m), 2.50 (2H, s), 2.58 (2H, m), 2.72 (5H, m), 2.83 (2H, m), 3.65 (2H, s), 6.62  
20 (1H, s), 7.15 (1H, ddd, J = 8.3 Hz, J = 8.3 Hz, J = 1.7 Hz), 7.40 - 7.80 (5H, m), 7.87 - 7.90 (2H, m), 8.27 (1H, s)

Mass spectrometric value (ESI-MS) 522 (M-1)

Compound 567 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl]-benzamide

25 The title compound 567 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.06 (6H, t, J = 7.3 Hz), 2.26 (3H, m), 2.49 (2H, s), 2.57 (2H, m), 2.68 (5H, m), 2.80 (2H, m), 3.64 (2H, s), 6.60  
30 (1H, s), 7.50 (1H, m), 7.57 (1H, d, J = 7.6 Hz), 7.65 (1H, d, J = 8.3 Hz), 7.94 (3H, m), 8.28 (2H, m)

Mass spectrometric value (ESI-MS) 606 (M-1)

Compound 568 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-

benzamide

35 The title compound 568 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.05 (6H, t, J = 7.2 Hz), 2.25 (3H, s), 2.49 (2H, s), 2.57 (2H, m), 2.66 (5H, m), 2.77 (2H, m), 3.64 (2H, m), 3.83 (3H, s), 6.63 (1H, s), 6.97 (2H, d, J = 8.5 Hz), 7.42 - 7.59 (2H, m), 7.76 (2H, m), 7.90 (2H, m), 8.22 (1H, s)

5 Mass spectrometric value (ESI-MS) 534 (M-1)

Compound 569 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 569 was produced in substantially the same manner as in Example 8.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.49 (2H, m), 1.64 (6H, m), 1.87 (2H, m), 2.03 (2H, m), 2.27 (1H, m), 2.29 (6H, m), 2.49 (3H, s), 2.71 (4H, m), 2.96 (2H, d, J = 11.0 Hz), 3.59 (2H, s), 6.66 (1H, s), 7.18 (1H, d, J = 7.6 Hz), 7.45 - 7.73 (4H, m), 7.88 (2H, s), 8.22 (1H, s)

Mass spectrometric value (ESI-MS) 570 (M-1)

15 Compound 570 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 570 was produced in substantially the same manner as in Example 8.

20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.49 (2H, m), 1.65 (6H, m), 1.88 (2H, d, J = 11.0 Hz), 2.04 (2H, t, J = 11.5 Hz), 2.34 (1H, s), 2.37 (3H, s), 2.49 (3H, s), 2.74 (4H, bs), 2.97 (2H, d, J = 11.2 Hz), 3.58 (2H, s), 6.67 (1H, s), 7.24 (2H, d, J = 7.8 Hz), 7.45 - 7.60 (2H, m), 7.70 (2H, m), 7.85 - 7.95 (2H, m), 8.26 (1H, s)

Mass spectrometric value (ESI-MS) 556 (M-1)

25 Compound 571 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 571 was produced in substantially the same manner as in Example 8.

30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.48 (2H, m), 1.63 (6H, m), 1.86 (2H, d, J = 11.4 Hz), 2.03 (2H, t, J = 11.2 Hz), 2.36 - 2.54 (4H, m), 2.66 (4H, m), 2.96 (2H, d, J = 11.2 Hz), 3.58 (2H, s), 6.66 (1H, s), 7.17 (2H, dd, J = 8.5 Hz, J = 8.5 Hz), 7.45 - 7.60 (2H, m), 7.85 - 7.94 (4H, m), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 560 (M-1)

35 Compound 572 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 572 was produced in substantially the same

manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.49 (2H, m), 1.64 (6H, m), 1.87 (2H, d, J = 11.7 Hz), 2.03 (2H, t, J = 11.2 Hz), 2.49 (4H, s), 2.72 (4H, m), 2.96 (2H, d, J = 11.5 Hz), 3.58 (2H, s), 6.65 (1H, s), 7.15 (1H, m), 7.40 - 7.75 (5H, m), 7.85 - 7.95 (2H, m), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 560 (M-1)

Compound 573 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 573 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.49 (2H, m), 1.63 (6H, m), 1.87 (2H, d, J = 11.2 Hz), 2.04 (2H, t, J = 11.1 Hz), 2.40 - 2.54 (4H, m), 2.68 (4H, m), 2.97 (2H, d, J = 11.5 Hz), 3.59 (2H, s), 6.65 (1H, s), 7.45 - 7.60 (2H, m), 7.67 (1H, d, J = 8.3 Hz), 7.85 - 8.05 (3H, m), 8.31 (2H, m)

Mass spectrometric value (ESI-MS) 644 (M-1)

Compound 574 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 574 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.49 (2H, m), 1.61 (6H, m), 1.85 (2H, d, J = 11.7 Hz), 2.02 (2H, t, J = 11.6 Hz), 2.30 - 2.52 (4H, m), 2.65 (4H, bs), 2.95 (2H, d, J = 11.0 Hz), 3.58 (2H, s), 3.83 (3H, s), 6.66 (1H, s), 6.98 (2H, d, J = 8.3 Hz), 7.44 - 7.61 (2H, m), 7.76 (2H, m), 7.90 (2H, m), 8.23 (1H, s)

Mass spectrometric value (ESI-MS) 572 (M-1)

Compound 575 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 575 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.29 (6H, s), 2.48 (3H, s), 2.52 - 2.70 (10H, m), 3.62 (2H, s), 3.66 (2H, t, J = 6.0 Hz), 6.68 (1H, d, J = 1.0 Hz), 7.17 (1H, d, J = 7.6 Hz), 7.50 (2H, m), 7.59 (2H, m), 7.80 - 7.95 (2H, m), 8.22 (1H, s)

Mass spectrometric value (ESI-MS) 532 (M-1)

Compound 576 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 576 was produced in substantially the same manner as in Example 8.

5  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  2.38 (3H, s), 2.49 (3H, s), 2.54 - 2.74 (10H, m), 3.60 - 3.70 (4H, m), 6.71 (1H, d,  $J = 1.2$  Hz), 7.25 (2H, d,  $J = 7.6$  Hz), 7.51 (1H, dd,  $J = 7.4$  Hz,  $J = 7.4$  Hz), 7.59 (1H, d,  $J = 7.4$  Hz), 7.71 (2H, bs), 7.85 - 7.95 (2H, m), 8.26 (1H, s)

Mass spectrometric value (ESI-MS) 518 (M-1)

10 Compound 577 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 577 was produced in substantially the same manner as in Example 8.

15  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  2.49 (3H, m), 2.52 - 2.76 (10H, m), 3.63 (2H, s), 3.68 (2H, t,  $J = 5.8$  Hz), 6.69 (1H, d,  $J = 1.0$  Hz), 7.17 (2H, dd,  $J = 8.6$  Hz,  $J = 8.6$  Hz), 7.50 (1H, dd,  $J = 7.6$  Hz,  $J = 7.6$  Hz), 7.59 (1H, d,  $J = 7.6$  Hz), 7.82 - 7.94 (4H, m), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 522 (M-1)

20 Compound 578 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 578 was produced in substantially the same manner as in Example 8.

25  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  2.49 (3H, s), 2.57 (4H, m), 2.64 (2H, t,  $J = 5.9$  Hz), 2.71 (4H, m), 3.63 (2H, s), 3.68 (2H, t,  $J = 5.9$  Hz), 6.68 (1H, d,  $J = 1.0$  Hz), 7.16 (1H, dd,  $J = 8.1$  Hz,  $J = 8.1$  Hz), 7.40 - 7.70 (5H, m), 7.82 - 7.95 (2H, m), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 522 (M-1)

30 Compound 579 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 579 was produced in substantially the same manner as in Example 8.

35  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  2.49 (3H, s), 2.52 - 2.68 (10H, m), 3.63 (2H, s), 3.66 (2H, t,  $J = 6.0$  Hz), 6.70 (1H, d,  $J = 1.0$  Hz), 7.51 (1H, dd,  $J = 7.3$  Hz,  $J = 7.3$  Hz), 7.60 (1H, d,  $J = 7.3$  Hz), 7.67 (1H, d,  $J = 8.3$  Hz), 7.87 (1H, m), 7.93 (1H, s), 8.00 (1H, bs), 8.32 (2H, m)



Mass spectrometric value (ESI-MS) 606 (M-1)

Compound 580 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

5 The title compound 580 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.49 (3H, s), 2.50 - 2.75 (10H, m), 3.63 (2H, s), 3.67 (2H, t, J = 6.0 Hz), 3.83 (3H, s), 6.69 (1H, d, J = 1.0 Hz), 6.98 (2H, d, J = 8.3 Hz), 7.50 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.76 (2H, m), 7.82 - 7.94 (2H, m), 8.23 (1H, s)

10 Mass spectrometric value (ESI-MS) 534 (M-1)

Compound 581 3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

15 The title compound 581 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.20 (6H, t, J = 7.2 Hz), 2.31 (3H, s), 2.32 (3H, s), 2.51 (3H, s), 2.91 (2H, t, J = 6.2 Hz), 3.02 (6H, m), 3.97 (2H, s), 6.71 (1H, d, J = 1.0 Hz), 7.20 (1H, d, J = 7.8 Hz), 7.50 - 7.70 (4H, m), 7.91 (1H, m), 7.99 (1H, m), 8.25 (1H, s)

20 Mass spectrometric value (ESI-MS) 518 (M-1)

Compound 582 3-[(2-Diethylamino-ethylamino)-methyl]-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

25 The title compound 582 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.22 (6H, t, J = 7.2 Hz), 2.39 (3H, s), 2.51 (3H, s), 2.93 (2H, t, J = 6.2 Hz), 3.06 (6H, m), 3.39 (2H, s), 6.72 (1H, d, J = 1.0 Hz), 7.27 (2H, d, J = 7.8 Hz), 7.52 - 7.77 (4H, m), 7.91 (1H, m), 8.01 (1H, m), 8.28 (1H, s)

30 Mass spectrometric value (ESI-MS) 504 (M-1)

Compound 583 3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 583 was produced in substantially the same manner as in Example 8.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.19 (6H, t, J = 7.2 Hz), 2.52 (3H, s), 2.89 (2H, t, J = 6.1 Hz), 2.98 (6H, m), 3.96 (2H, s), 6.72 (1H, d, J = 1.0 Hz),

7.19 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 7.56 (1H, m), 7.64 (1H, d, J = 7.2 Hz), 7.90 (3H, m), 7.99 (1H, s), 8.30 (1H, s)

Mass spectrometric value (ESI-MS) 509 (M-1)

Compound 584 3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 584 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.20 (6H, t, J = 7.2 Hz), 2.52 (3H, s), 2.90 (2H, m), 3.00 (6H, m), 3.96 (2H, s), 6.71 (1H, d, J = 1.2 Hz), 7.18 (1H, dd, J = 8.3 Hz, J = 8.3 Hz), 7.46 (1H, m), 7.52 - 7.75 (4H, m), 7.91 (1H, m), 7.99 (1H, s), 8.31 (1H, s)

Mass spectrometric value (ESI-MS) 508 (M-1)

Compound 585 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 585 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.16 (6H, t, J = 7.2 Hz), 2.51 (3H, s), 2.91 (8H, m), 3.95 (2H, s), 6.70 (1H, d, J = 1.2 Hz), 7.55 (1H, m), 7.64 (1H, d, J = 8.0 Hz), 7.69 (1H, d, J = 8.3 Hz), 7.91 (1H, m), 7.98 (2H, m), 8.34 (2H, s)

Mass spectrometric value (ESI-MS) 592 (M-1)

Compound 586 3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 586 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.16 (6H, t, J = 7.2 Hz), 2.51 (3H, s), 2.90 (8H, m), 3.85 (3H, s), 3.94 (2H, s), 6.70 (1H, d, J = 1.0 Hz), 6.99 (2H, d, J = 8.8 Hz), 7.56 (1H, m), 7.64 (1H, m), 7.79 (2H, d, J = 7.3 Hz), 7.91 (1H, m), 7.98 (1H, s), 8.25 (1H, s)

Mass spectrometric value (ESI-MS) 520 (M-1)

Compound 587 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 587 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.09 (6H, m), 2.31 (6H, m), 2.51 (7H, m), 3.60 - 3.95 (4H, m), 6.70 (1H, d, J = 1.0 Hz), 7.19 (1H, d, J = 8.0 Hz), 7.52 (2H, m), 7.65 (2H, d, J = 6.6 Hz), 7.87 (1H, m), 7.99 (1H, s), 8.22 (1H, s)

5 Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 588 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 588 was produced in substantially the same manner as in Example 8.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.09 (6H, m), 2.38 (3H, s), 2.51 (7H, m), 3.68 - 3.94 (4H, m), 6.70 (1H, d, J = 1.2 Hz), 7.25 (2H, m), 7.51 (1H, m), 7.65 (1H, d, J = 7.3 Hz), 7.73 (2H, m), 7.87 (1H, m), 7.99 (1H, s), 8.26 (1H, s)

Mass spectrometric value (ESI-MS) 521 (M-1)

15 Compound 589 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 589 was produced in substantially the same manner as in Example 8.

20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.09 (6H, m), 2.49 (7H, m), 3.65 - 3.95 (4H, m), 6.71 (1H, m), 7.18 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 7.51 (1H, dd, J = 7.4 Hz, J = 7.4 Hz), 7.65 (1H, d, J = 7.4 Hz), 7.88 (3H, m), 7.99 (1H, s), 8.29 (1H, s)

Mass spectrometric value (ESI-MS) 526 (M-1)

25 Compound 590 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 590 was produced in substantially the same manner as in Example 8.

30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.09 (6H, m), 2.49 (7H, m), 3.87 (4H, m), 6.71 (1H, d, J = 1.0 Hz), 7.17 (2H, m), 7.40 - 7.75 (4H, m), 7.87 (1H, d, J = 7.8 Hz), 8.00 (1H, s), 8.29 (1H, s)

Mass spectrometric value (ESI-MS) 525 (M-1)

Compound 591 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

35 The title compound 591 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.08 (6H, m), 2.50 (7H, m), 3.65 - 3.95 (4H, m), 6.71 (1H, d, J = 1.0 Hz), 7.51 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.66 (2H, m), 7.86 (1H, m), 8.02 (2H, m), 8.33 (2H, m)

Mass spectrometric value (ESI-MS) 609 (M-1)

- 5    Compound 592    3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 592 was produced in substantially the same manner as in Example 8.

- 10    <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.09 (6H, d, J = 6.1 Hz), 2.49 (7H, m), 3.85 (7H, m), 6.70 (1H, d, J = 1.0 Hz), 6.99 (2H, d, J = 8.3 Hz), 7.51 (1H, m), 7.65 (1H, d, J = 7.6 Hz), 7.84 (3H, m), 7.99 (1H, s), 8.23 (1H, s)

Mass spectrometric value (ESI-MS) 537 (M-1)

- 15    Compound 593    N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 593 was produced in substantially the same manner as in Example 8.

- 20    <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.59 (2H, m), 1.85 (2H, m), 2.29 (8H, bs), 2.48 (3H, s), 2.84 (2H, m), 3.66 (3H, m), 6.68 (1H, d, J = 1.0 Hz), 7.17 (1H, d, J = 7.6 Hz), 7.52 (1H, m), 7.61 (2H, d, J = 5.6 Hz), 7.89 (2H, m), 8.22 (1H, s)

Mass spectrometric value (ESI-MS) 503 (M-1)

- 25    Compound 594    3-(4-Hydroxy-piperidin-1-ylmethyl)-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 594 was produced in substantially the same manner as in Example 8.

- 30    <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.59 (2H, m), 1.86 (2H, m), 2.35 (5H, m), 2.49 (3H, s), 2.87 (2H, m), 3.67 (3H, m), 6.70 (1H, d, J = 1.2 Hz), 7.25 (2H, d, J = 7.8 Hz), 7.53 (1H, dd, J = 7.3 Hz, J = 7.3 Hz), 7.63 (1H, d, J = 7.3 Hz), 7.71 (2H, m), 7.91 (2H, m), 8.26 (1H, s)

Mass spectrometric value (ESI-MS) 489 (M-1)

- Compound 595    N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

- 35    The title compound 595 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.62 (2H, m), 1.87 (2H, m), 2.36 (2H, m),

2.49 (3H, s), 2.89 (2H, m), 3.66 (1H, m), 3.74 (2H, s), 6.72 (1H, d, J = 1.0 Hz), 7.18 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.54 (1H, m), 7.64 (1H, d, J = 7.3 Hz), 7.91 (4H, m), 8.29 (1H, s)

Mass spectrometric value (ESI-MS) 493 (M-1)

- 5 Compound 596 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 596 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.60 (2H, m), 1.87 (2H, m), 2.35 (2H, m),  
10 2.49 (3H, s), 2.88 (2H, m), 3.66 (1H, m), 3.72 (2H, s), 6.69 (1H, d, J = 1.1 Hz), 7.16 (1H, dd, J = 8.3 Hz, J = 8.3 Hz), 7.44 (1H, m), 7.53 (2H, m), 7.63 (2H, m), 7.91 (2H, m), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 493 (M-1)

- Compound 597 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide  
15

The title compound 597 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.61 (2H, m), 1.86 (2H, m), 2.37 (2H, m),  
20 2.50 (3H, s), 2.90 (2H, m), 3.67 (1H, m), 3.74 (2H, s), 6.72 (1H, d, J = 1.0 Hz), 7.55 (1H, dd, J = 7.5 Hz, J = 7.5 Hz), 7.66 (2H, m), 7.92 (3H, m), 8.33 (2H, m)

Mass spectrometric value (ESI-MS) 577 (M-1)

- Compound 598 3-(4-Hydroxy-piperidin-1-ylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide  
25

The title compound 598 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.61 (2H, m), 1.87 (2H, m), 2.37 (2H, m),  
30 2.49 (3H, s), 2.89 (2H, m), 3.66 (1H, m), 3.73 (2H, s), 3.84 (3H, s), 6.69 (1H, d, J = 1.0 Hz), 6.97 (2H, d, J = 8.3 Hz), 7.53 (1H, m), 7.62 (1H, m), 7.76 (2H, m), 7.90 (2H, m), 8.23 (1H, s)

Mass spectrometric value (ESI-MS) 505 (M-1)

- Compound 599 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide  
35

The title compound 599 was produced in substantially the same

manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.29 (2H, m), 1.50 (1H, m), 1.75 (2H, d, J = 11.5 Hz), 2.19 (2H, m), 2.30 (6H, s), 2.49 (3H, s), 2.99 (2H, d, J = 10.8 Hz), 3.38 (2H, d, J = 6.6 Hz), 3.73 (2H, s), 6.70 (1H, d, J = 1.0 Hz), 7.19 (1H, d, J = 7.6 Hz), 7.54 (2H, m), 7.62 (2H, m), 7.91 (2H, m), 8.22 (1H, s)  
Mass spectrometric value (ESI-MS) 517 (M-1)

Compound 600 3-(4-Hydroxymethyl-piperidin-1-ylmethyl)-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 600 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.30 (2H, m), 1.50 (1H, m), 1.75 (2H, d, J = 13.2 Hz), 2.22 (2H, t, J = 11.5 Hz), 2.37 (3H, s), 2.48 (3H, s), 3.00 (2H, d, J = 11.0 Hz), 3.38 (2H, d, J = 6.3 Hz), 3.74 (2H, s), 6.68 (1H, d, J = 1.0 Hz), 7.24 (2H, d, J = 7.8 Hz), 7.52 (1H, dd, J = 7.4 Hz, J = 7.4 Hz), 7.62 (1H, d, J = 7.4 Hz), 7.69 (2H, m), 7.90 (2H, m), 8.25 (1H, s)

Mass spectrometric value (ESI-MS) 503 (M-1)

Compound 601 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 601 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.30 (2H, m), 1.50 (1H, m), 1.75 (2H, d, J = 12.2 Hz), 2.22 (2H, t, J = 11.4 Hz), 2.48 (3H, s), 3.01 (2H, d, J = 11.2 Hz), 3.38 (2H, d, J = 6.4 Hz), 3.73 (2H, s), 6.68 (1H, d, J = 1.0 Hz), 7.16 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.62 (1H, d, J = 7.6 Hz), 7.88 (4H, m), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 507 (M-1)

Compound 602 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 602 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.31 (2H, m), 1.51 (1H, m), 1.76 (2H, d, J = 11.5 Hz), 2.23 (2H, d, J = 10.8 Hz), 2.45 (3H, s), 3.02 (2H, d, J = 11.2 Hz), 3.39 (2H, d, J = 6.3 Hz), 3.75 (2H, s), 6.69 (1H, d, J = 1.0 Hz), 7.17 (1H, m), 7.44 (1H, m), 7.53 (2H, m), 7.63 (2H, m), 7.90 (2H, m), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 507 (M-1)

Compound 603 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 603 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.31 (2H, m), 1.51 (1H, m), 1.76 (2H, d, J = 11.7 Hz), 2.21 (2H, t, J = 11.5 Hz), 2.49 (3H, s), 3.01 (2H, d, J = 11.5 Hz), 3.38 (2H, d, J = 6.3 Hz), 3.74 (2H, s), 6.70 (1H, s), 7.54 (1H, dd, J = 7.4 Hz), 7.65 (2H, m), 7.94 (3H, m), 8.31 (2H, m)

Mass spectrometric value (ESI-MS) 591 (M-1)

Compound 604 3-(4-Hydroxymethyl-piperidin-1-ylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 604 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.29 (2H, m), 1.50 (1H, m), 1.75 (2H, d, J = 12.2 Hz), 2.20 (2H, t, J = 11.1 Hz), 2.47 (3H, s), 3.00 (2H, d, J = 10.8 Hz), 3.38 (2H, d, J = 6.4 Hz), 3.72 (2H, s), 3.83 (3H, s), 6.67 (1H, s), 6.96 (2H, d, J = 8.3 Hz), 7.51 (1H, dd, J = 7.4 Hz), 7.61 (1H, d, J = 7.4 Hz), 7.75 (2H, d, J = 6.4 Hz), 7.89 (2H, m), 8.23 (1H, m)

Mass spectrometric value (ESI-MS) 519 (M-1)

Compound 605 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 605 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 1.89 (4H, m), 2.30 (6H, s), 2.51 (2H, t, J = 7.2 Hz), 2.74 (2H, m), 2.85 (2H, m), 3.60 (2H, t, J = 6.2 Hz), 3.82 (2H, s), 7.19 (1H, d, J = 7.6 Hz), 7.51 (2H, m), 7.61 (2H, m), 7.87 (2H, m), 8.21 (1H, s)

Mass spectrometric value (ESI-MS) 534 (M-1)

Compound 606 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 606 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 1.89 (4H, m), 2.51 (2H, t, J = 7.3 Hz), 2.75 (2H, m), 2.86 (2H, m), 3.60 (2H, t, J = 6.2 Hz), 3.82 (2H, s), 7.18 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 7.50 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.60 (1H, d, J = 7.6 Hz), 7.87 (2H, m), 8.06 (2H, m), 8.27 (1H, s)

5 Mass spectrometric value (ESI-MS) 524 (M-1)

Compound 607 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

10 The title compound 607 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 1.90 (4H, m), 2.51 (2H, t, J = 7.3 Hz), 2.77 (2H, m), 2.86 (2H, bs), 3.63 (2H, m), 3.82 (2H, s), 7.17 (1H, dd, J = 8.0 Hz, J = 8.0 Hz), 7.55 (5H, m), 7.84 (1H, d, J = 7.1 Hz), 7.92 (1H, s), 8.27 (1H, s)

15 Mass spectrometric value (ESI-MS) 524 (M-1)

Compound 608 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

20 The title compound 608 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.77 (2H, m), 1.90 (4H, m), 2.51 (2H, m), 2.76 (2H, m), 2.86 (2H, m), 3.60 (2H, m), 3.83 (2H, s), 7.52 (1H, m), 7.62 (1H, m), 7.68 (1H, m), 7.75 - 8.08 (4H, m), 8.32 (1H, s)

Mass spectrometric value (ESI-MS) 608 (M-1)

25 Compound 609 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 609 was produced in substantially the same manner as in Example 8.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.08 (6H, t, J = 7.2 Hz), 1.85 (4H, m), 2.24 (3H, s), 2.29 (6H, s), 2.75 (12H, m), 3.62 (2H, s), 7.17 (1H, d, J = 7.6 Hz), 7.44 (2H, dd, J = 15.0 Hz, J = 7.6 Hz), 7.55 (2H, d, J = 7.6 Hz), 7.63 (2H, s), 7.95 (2H, m), 8.06 (1H, s)

Mass spectrometric value (ESI-MS) 572 (M-1)

35 Compound 610 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo-



[b]thiophen-2-yl]-benzamide

The title compound 610 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.08 (6H, t, J = 7.1 Hz), 1.85 (4H, m), 2.24 (3H, s), 2.37 (3H, s), 2.74 (12H, m), 3.61 (2H, s), 7.20 (2H, d, J = 8.0 Hz), 7.44 (1H, dd, J = 15.9 Hz, J = 8.1 Hz), 7.54 (1H, d, J = 7.8 Hz), 7.66 (2H, d, J = 8.0 Hz), 7.95 (2H, m), 8.12 (1H, s)

Mass spectrometric value (ESI-MS) 558 (M-1)

Compound 611 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo-  
[b]thiophen-2-yl]-benzamide

The title compound 611 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.10 (6H, t, J = 7.3 Hz), 1.83 (4H, m), 2.24 (3H, s), 2.75 (12H, m), 3.61 (2H, s), 7.09 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.44 (1H, dd, J = 15.1 Hz, J = 7.6 Hz), 7.54 (1H, d, J = 7.6 Hz), 7.76 (2H, m), 7.93 (2H, m), 8.16 (1H, s)

Mass spectrometric value (ESI-MS) 562 (M-1)

Compound 612 3-[[[(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo-  
[b]thiophen-2-yl]-benzamide

The title compound 612 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.11 (6H, t, J = 7.2 Hz), 1.81 (4H, m), 2.23 (3H, s), 2.77 (12H, m), 3.61 (2H, s), 7.08 (1H, m), 7.31 - 7.59 (4H, m), 7.91 (2H, m), 8.21 (1H, s)

Mass spectrometric value (ESI-MS) 562 (M-1)

Compound 613 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-[[[(2-diethylamino-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 613 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.10 (6H, m), 1.91 (4H, m), 2.25 (3H, s), 2.55 - 2.80 (12H, m), 3.63 (2H, s), 7.46 (1H, m), 7.57 (2H, d, 8.3 Hz), 7.94 (3H, m), 8.04 (1H, m), 8.23 (1H, s)

Mass spectrometric value (ESI-MS) 646 (M-1)

Compound 614 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 614 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 1.83 (4H, m), 2.23 (3H, s), 2.68 (12H, m), 3.60 (2H, s), 3.82 (3H, s), 6.89 (2H, d, J = 8.8 Hz), 7.45 (1H, dd, J = 15.4 Hz, J = 7.6 Hz), 7.56 (1H, d, J = 7.6 Hz), 7.70 (2H, d, J = 8.8 Hz), 7.82 - 8.02 (2H, m), 8.09 (1H, s)

Mass spectrometric value (ESI-MS) 574 (M-1)

Compound 615 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 615 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.46 (2H, bs), 1.68 - 2.06 (15H, m), 2.27 (6H, s), 2.60 - 3.02 (10H, m), 3.54 (2H, s), 7.14 (1H, m), 7.46 (3H, m), 7.60 (1H, s), 7.94 (2H, m), 8.11 (1H, s)

Mass spectrometric value (ESI-MS) 610 (M-1)

Compound 616 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 616 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, bs), 1.68 - 2.08 (14H, m), 2.37 (3H, s), 2.65 - 3.00 (11H, m), 3.54 (2H, s), 7.20 (2H, d, J = 7.8 Hz), 7.45 (2H, m), 7.66 (2H, d, J = 7.8 Hz), 7.90 (2H, m), 8.16 (1H, s)

Mass spectrometric value (ESI-MS) 596 (M-1)

Compound 617 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 617 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.48 (2H, bs), 1.65 - 2.10 (14H, m), 2.74 (7H, m), 2.87 (2H, m), 2.94 (2H, m), 3.55 (2H, s), 7.10 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.46 (2H, m), 7.77 (2H, m), 7.92 (1H, d, J = 7.6 Hz),

7.97 (1H, s), 8.18 (1H, s)

Mass spectrometric value (ESI-MS) 600 (M-1)

Compound 618 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 618 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.48 (2H, bs), 1.70 - 2.08 (14H, m), 2.86 (11H, m), 3.55 (2H, s), 7.10 (1H, ddd, J = 8.3 Hz, J = 8.3 Hz, J = 2.4 Hz), 7.50 (5H, m), 7.91 (1H, d, J = 7.6 Hz), 7.97 (1H, s), 8.20 (1H, s)

Mass spectrometric value (ESI-MS) 600 (M-1)

Compound 619 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 619 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, bs), 1.86 (14H, m), 2.84 (11H, m), 3.53 (2H, s), 7.48 (3H, m), 7.91 (3H, m), 8.01 (1H, s), 8.31 (1H, s)

Mass spectrometric value (ESI-MS) 684 (M-1)

Compound 620 3-[1,4']Bipiperidiny-1'-ylmethyl-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 620 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, bs), 1.85 (14H, m), 2.82 (11H, m), 3.53 (2H, bs), 3.82 (3H, m), 6.90 (2H, m), 7.43 (2H, m), 7.69 (2H, d, J = 7.1 Hz), 7.91 (2H, m), 8.15 (1H, s)

Mass spectrometric value (ESI-MS) 612 (M-1)

Compound 621 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 621 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.87 (4H, m), 2.29 (6H, s), 2.55 (10H, m), 2.72 (2H, m), 2.86 (2H, m), 3.60 (4H, m), 7.16 (1H, d, J = 7.6 Hz), 7.43 (2H, m), 7.54 (1H, d, J = 7.8 Hz), 7.62 (1H, s), 7.93 (1H, d, J = 7.8 Hz),

8.00 (1H, s), 8.05 (1H, s)

Mass spectrometric value (ESI-MS) 572 (M-1)

Compound 622 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo-

5 [b]thiophen-2-yl]-benzamide

The title compound 622 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.85 (4H, m), 2.37 (3H, s), 2.54 (10H, m), 2.71 (2H, m), 2.85 (2H, m), 3.60 (4H, m), 7.20 (2H, d, J = 7.8 Hz), 7.43  
10 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.54 (1H, d, J = 7.8 Hz), 7.66 (2H, d, J = 7.8 Hz), 7.92 (1H, d, J = 7.8 Hz), 8.00 (1H, s), 8.10 (1H, s)

Mass spectrometric value (ESI-MS) 558 (M-1)

Compound 623 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-

15 ylmethyl]-benzamide

The title compound 623 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.87 (4H, m), 2.54 (10H, m), 2.73 (2H, m), 2.86 (2H, m), 3.60 (4H, m), 7.11 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 7.44  
20 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.54 (1H, d, J = 7.6 Hz), 7.79 (2H, m), 7.92 (1H, m), 8.00 (1H, s), 8.12 (1H, s)

Mass spectrometric value (ESI-MS) 562 (M-1)

Compound 624 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-

25 ylmethyl]-benzamide

The title compound 624 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.87 (4H, m), 2.54 (10H, m), 2.72 (2H, m), 2.84 (2H, m), 3.60 (4H, m), 7.11 (1H, ddd, J = 8.3 Hz, J = 8.3 Hz, J = 2.4  
30 Hz), 7.45 (5H, m), 7.92 (1H, d, J = 7.6 Hz), 8.00 (1H, s), 8.14 (1H, s)

Mass spectrometric value (ESI-MS) 562 (M-1)

Compound 625 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

35 The title compound 625 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.83 (4H, m), 2.53 (10H, m), 2.69 (2H, m), 2.82 (2H, m), 3.60 (4H, m), 7.44 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.54 (2H, d, J = 8.3 Hz), 7.92 (2H, m), 7.98 (1H, s), 8.01 (1H, s), 8.22 (1H, s)  
Mass spectrometric value (ESI-MS) 646 (M-1)

- 5    Compound 626    3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo-[b]thiophen-2-yl]-benzamide

The title compound 626 was produced in substantially the same manner as in Example 8.

- 10    <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.85 (4H, m), 2.53 (10H, m), 2.70 (2H, m), 2.84 (2H, m), 3.59 (4H, m), 3.83 (3H, s), 6.90 (2H, d, J = 8.8 Hz), 7.42 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.53 (1H, d, J = 7.8 Hz), 7.72 (2H, d, J = 8.8 Hz), 7.92 (1H, d, J = 7.8 Hz), 7.99 (1H, s), 8.07 (1H, s)  
Mass spectrometric value (ESI-MS) 574 (M-1)

- 15    Compound 627    3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo-[b]thiophen-2-yl]-benzamide

The title compound 627 was produced in substantially the same manner as in Example 8.

- 20    <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.14 (6H, m), 1.84 (4H, m), 2.25 (6H, m), 2.50 (2H, d, J = 5.6 Hz), 2.62 (2H, m), 2.70 (2H, m), 2.83 (2H, m), 3.81 - 4.06 (4H, m), 7.08 (1H, m), 7.46 (3H, m), 7.60 (1H, s), 8.02 (2H, m), 8.20 (1H, bs)  
Mass spectrometric value (ESI-MS) 575 (M-1)

- 25    Compound 628    3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo-[b]thiophen-2-yl]-benzamide

The title compound 628 was produced in substantially the same manner as in Example 8.

- 30    <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.13 (6H, m), 1.87 (4H, m), 2.37 (3H, m), 2.50 (2H, d, J = 5.6 Hz), 2.62 (2H, m), 2.71 (2H, m), 2.84 (2H, m), 3.93 (4H, m), 7.16 (2H, m), 7.44 (2H, m), 7.70 (2H, m), 8.00 (2H, m), 8.22 (1H, bs)  
Mass spectrometric value (ESI-MS) 561 (M-1)

- 35    Compound 629    3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-

yl]-benzamide

The title compound 629 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.12 (6H, t, J = 6.1 Hz), 1.88 (4H, m), 2.50 (2H, m), 2.63 (2H, m), 2.73 (2H, m), 2.84 (2H, m), 3.94 (4H, m), 7.06 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.44 (2H, m), 7.85 (2H, m), 8.05 (2H, m), 8.25 (1H, d, J = 6.8 Hz)

Mass spectrometric value (ESI-MS) 565 (M-1)

Compound 630 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3-fluorobenzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 630 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.14 (6H, t, J = 6.1 Hz), 1.84 (4H, m), 2.51 (2H, m), 2.66 (4H, m), 2.83 (2H, m), 3.95 (4H, m), 7.00 (1H, m), 7.23 (1H, m), 7.42 (3H, m), 7.72 (1H, m), 8.03 (1H, m), 8.18 (1H, s), 8.27 (1H, d, J = 10.3 Hz)

Mass spectrometric value (ESI-MS) 565 (M-1)

Compound 631 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 631 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.12 (6H, m), 1.72 (4H, m), 2.52 (2H, d, J = 6.1 Hz), 2.68 (6H, m), 3.97 (4H, m), 7.32 (1H, d, J = 8.3 Hz), 7.43 (2H, m), 7.87 (1H, m), 8.01 (2H, m), 8.30 (1H, s), 8.33 (1H, s)

Mass spectrometric value (ESI-MS) 649 (M-1)

Compound 632 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 632 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.13 (6H, m), 1.86 (4H, m), 2.49 (2H, m), 2.62 (2H, m), 2.70 (2H, m), 2.81 (2H, m), 3.75 - 4.05 (7H, m), 6.82 (2H, m), 7.42 (2H, m), 7.74 (2H, m), 8.01 (1H, m), 8.06 (1H, s), 8.23 (1H, m)

Mass spectrometric value (ESI-MS) 577 (M-1)

Compound 633 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 633 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.64 (2H, m), 1.85 (6H, m), 2.25 (8H, m), 2.75 (6H, m), 3.63 (2H, s), 3.70 (1H, m), 7.15 (1H, d, J = 7.8 Hz), 7.43 (2H, m), 7.56 (1H, m), 7.61 (1H, s), 7.93 (1H, d, J = 7.8 Hz), 7.98 (1H, s), 8.06 (1H, s)

Mass spectrometric value (ESI-MS) 543 (M-1)

Compound 634 3-(4-Hydroxy-piperidin-1-ylmethyl)-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 634 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.64 (2H, m), 1.86 (6H, m), 2.26 (2H, t, J = 9.5 Hz), 2.37 (3H, s), 2.71 (2H, m), 2.81 (4H, m), 3.64 (2H, s), 3.72 (1H, m), 7.19 (2H, d, J = 7.9 Hz), 7.43 (1H, dd, J = 7.8 Hz), 7.57 (1H, d, J = 7.8 Hz), 7.66 (2H, d, J = 7.9 Hz), 7.94 (2H, m), 8.09 (1H, s)

Mass spectrometric value (ESI-MS) 529 (M-1)

Compound 635 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 635 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.64 (2H, m), 1.90 (6H, m), 2.23 (2H, m), 2.80 (6H, m), 3.62 (2H, s), 3.73 (1H, m), 7.11 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.45 (1H, m), 7.58 (1H, m), 7.79 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.94 (1H, d, J = 7.8 Hz), 7.99 (1H, s), 8.12 (1H, s)

Mass spectrometric value (ESI-MS) 533 (M-1)

Compound 636 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 636 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.69 (2H, m), 1.90 (6H, m), 2.42 (2H, bs),

2.78 (6H, m), 3.75 (3H, m), 7.11 (1H, m), 7.30 - 7.80 (5H, m), 7.98 (2H, m), 8.14 (1H, s)

Mass spectrometric value (ESI-MS) 533 (M-1)

Compound 637 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 637 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.63 (2H, m), 1.85 (6H, m), 2.19 (2H, m), 2.74 (6H, m), 3.58 (2H, s), 3.71 (1H, m), 7.44 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.54 (2H, m), 7.94 (4H, m), 8.23 (1H, s)

Mass spectrometric value (ESI-MS) 617 (M-1)

Compound 638 3-(4-Hydroxy-piperidin-1-ylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 638 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.62 (2H, m), 1.87 (6H, m), 2.19 (2H, m), 2.77 (6H, m), 3.59 (2H, s), 3.70 (1H, m), 3.83 (3H, s), 6.90 (2H, d, J = 8.5 Hz), 7.43 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.55 (1H, d, J = 7.6 Hz), 7.72 (2H, d, J = 8.5 Hz), 7.92 (1H, d, J = 7.6 Hz), 7.98 (1H, s), 8.06 (1H, s)

Mass spectrometric value (ESI-MS) 545 (M-1)

Compound 639 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 639 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.37 (2H, m), 1.49 (1H, m), 1.71 (2H, m), 1.86 (4H, m), 2.04 (2H, m), 2.29 (6H, s), 2.73 (2H, m), 2.86 (2H, m), 2.93 (2H, m), 3.49 (2H, d, J = 6.3 Hz), 3.62 (2H, s), 7.16 (1H, d, J = 7.8 Hz), 7.45 (2H, m), 7.58 (1H, m), 7.63 (1H, s), 7.94 (1H, d, J = 7.8 Hz), 7.99 (1H, s), 8.05 (1H, s)

Mass spectrometric value (ESI-MS) 557 (M-1)

Compound 640 3-(4-Hydroxymethyl-piperidin-1-ylmethyl)-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-



yl]-benzamide

The title compound 640 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.40 (2H, m), 1.50 (1H, m), 1.71 (2H, m),  
 5 1.89 (4H, m), 2.06 (2H, m), 2.38 (3H, m), 2.73 (2H, m), 2.86 (2H, m),  
 2.95 (2H, m), 3.49 (2H, d, J = 6.1 Hz), 3.63 (2H, s), 7.21 (2H, d, J = 8.0  
 Hz), 7.45 (1H, dd, J = 7.7 Hz, J = 14.9 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.68  
 (2H, d, J = 8.0 Hz), 7.97 (2H, m), 8.09 (1H, s)

Mass spectrometric value (ESI-MS) 543 (M-1)

10 Compound 641 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-  
 tetrahydro-benzo[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-  
 ylmethyl)-benzamide

The title compound 641 was produced in substantially the same manner as in Example 8.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.34 (2H, m), 1.50 (1H, m), 1.69 (2H, m),  
 1.84 (4H, m), 2.01 (2H, m), 2.71 (2H, m), 2.87 (4H, m), 3.49 (2H, d, J =  
 6.4 Hz), 3.58 (2H, s), 7.10 (2H, dd, J = 8.5 Hz), 7.43 (1H, m), 7.55 (1H,  
 m), 7.78 (2H, m), 7.91 (1H, m), 7.98 (1H, bs), 8.13 (1H, s)

Mass spectrometric value (ESI-MS) 547 (M-1)

20 Compound 642 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-  
 tetrahydro-benzo[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-  
 ylmethyl)-benzamide

The title compound 642 was produced in substantially the same manner as in Example 8.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.35 (2H, m), 1.51 (1H, m), 1.70 (2H, m),  
 1.84 (4H, m), 2.01 (2H, m), 2.70 (2H, m), 2.83 (2H, m), 2.90 (2H, m), 3,  
 49 (2H, d, J = 6.3 Hz), 3.58 (2H, s), 7.10 (1H, ddd, J = 8.3 Hz, J = 8.3 Hz,  
 J = 2.7 Hz), 7.45 (5H, m), 7.90 (1H, d, J = 7.4 Hz), 7.98 (1H, s), 8.14 (1H,  
 s)

30 Mass spectrometric value (ESI-MS) 547 (M-1)

Compound 643 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-  
 hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-3-(4-  
 hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 643 was produced in substantially the same manner as in Example 8.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.39 (2H, m), 1.52 (1H, m), 1.72 (2H, m),

1.88 (4H, m), 2.05 (2H, m), 2.66 - 2.98 (6H, m), 3.50 (2H, d, J = 6.1 Hz), 3.61 (2H, s), 7.46 (1H, m), 7.57 (1H, m), 7.86 (1H, m), 7.96 (3H, m), 8.04 (1H, s), 8.21 (1H, s)

Mass spectrometric value (ESI-MS) 631 (M-1)

- 5 Compound 644 3-(4-Hydroxymethyl-piperidin-1-ylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo-[b]thiophen-2-yl]-benzamide

The title compound 644 was produced in substantially the same manner as in Example 8.

- 10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.34 (2H, m), 1.49 (1H, m), 1.69 (2H, m), 1.84 (4H, m), 2.00 (2H, m), 2.69 (2H, m), 2.81 (2H, m), 2.88 (2H, m), 3.48 (2H, d, J = 6.4 Hz), 3.57 (2H, s), 3.83 (3H, s), 6.90 (2H, d, J = 8.8 Hz), 7.43 (1H, m), 7.55 (1H, m), 7.70 (2H, d, J = 8.8 Hz), 7.91 (1H, d, J = 7.8 Hz), 7.97 (1H, m), 8.07 (1H, s)

- 15 Mass spectrometric value (ESI-MS) 559 (M-1)

Compound 645 N-{3-[N'-(3,4-Dimethyl-benzyl)-hydrazinocarbonyl]-4-methyl-thiophen-2-yl}-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 645 was produced in substantially the same manner as in Example 8.

- 20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.87 (2H, m), 2.26 (9H, m), 2.56 (2H, m), 3.73 (2H, m), 3.82 (2H, s), 4.06 (2H, s), 6.46 (1H, s), 7.13 (1H, bs), 7.18 (1H, bs), 7.50 (1H, m), 7.57 (1H, d, J = 7.8 Hz), 7.93 (2H, m), 13.00 (1H, s)

Mass spectrometric value (ESI-MS) 496 (M-1)

- 25 Compound 646 3-[(3,4-Dimethyl-benzylidene)-amino]-2-[3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-phenyl]-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one

The title compound 646 was produced in substantially the same manner as in Example 8.

- 30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.88 (4H, m), 2.31 (3H, s), 2.33 (3H, s), 2.80 (2H, m), 3.05 (2H, m), 4.33 (2H, s), 7.10 - 7.88 (7H, m), 8.03 (1H, s), 8.76 (1H, s)

Mass spectrometric value (ESI-MS) 525 (M-1)

- 35 Compound 647 3-[(4-Methyl-benzylidene)-amino]-2-[3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-phenyl]-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one

The title compound 647 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.88 (4H, m), 2.35 (3H, s), 2.80 (2H, m), 3.05 (2H, m), 4.34 (2H, s), 7.17 (2H, d, J = 7.8 Hz), 7.26 (1H, m), 7.37 (1H, m), 7.56 (2H, m), 7.76 (1H, s), 8.00 (2H, m), 8.81 (1H, s)

Mass spectrometric value (ESI-MS) 511 (M-1)

Compound 648 3-[(4-Fluoro-benzylidene)-amino]-2-[3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-phenyl]-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one

The title compound 648 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.89 (4H, m), 2.81 (2H, m), 3.05 (2H, m), 4.36 (2H, s), 7.08 (2H, dd, J = 8.7 Hz), 7.31 (1H, m), 7.40 (1H, d, J = 7.8 Hz), 7.56 (1H, d, J = 7.8 Hz), 7.69 (2H, m), 7.76 (1H, m), 8.04 (1H, s), 8.92 (1H, s)

Mass spectrometric value (ESI-MS) 515 (M-1)

Compound 649 3-[(3-Fluoro-benzylidene)-amino]-2-[3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-phenyl]-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one

The title compound 649 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.89 (4H, m), 2.81 (2H, m), 3.05 (2H, m), 4.36 (2H, s), 7.15 (1H, m), 7.36 (5H, m), 7.55 (1H, m), 7.75 (1H, m), 8.03 (1H, s), 9.01 (1H, s)

Mass spectrometric value (ESI-MS) 515 (M-1)

Compound 650 3-[(4-Chloro-3-trifluoromethyl-benzylidene)-amino]-2-[3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-phenyl]-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one

The title compound 650 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.89 (4H, m), 2.68 (2H, m), 2.81 (2H, m), 4.37 (2H, s), 7.30 - 8.02 (7H, m), 8.06 (1H, m), 9.17 (1H, s)

Mass spectrometric value (ESI-MS) 599 (M-1)

Compound 651 3-[(4-Methoxy-benzylidene)-amino]-2-[3-(1H-[1,2,4]triazol-3-ylsulfanylmethyl)-phenyl]-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one

The title compound 651 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.88 (4H, m), 2.80 (2H, m), 3.05 (2H, m), 3.81 (3H, s), 4.33 (2H, s), 6.87 (2H, d, J = 8.8 Hz), 7.28 (1H, m), 7.55 (1H, m), 7.61 (2H, d, J = 8.8 Hz), 7.76 (1H, m), 8.00 (1H, s), 8.73 (1H, s), 9.15 (1H, s)

Mass spectrometric value (ESI-MS) 527 (M-1)

#### Example 9

Compound 652 3-[[Acetyl-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester (Compound A) (4.0 g) was dissolved in anhydrous methylene chloride (40.0 ml). Subsequently, pyridine (2.8 ml) and 3-(chloromethyl) benzoyl chloride (compound B) (3.0 ml) were added at 0°C, and the mixture was stirred at 0°C for one hr. After the completion of the reaction, distilled water was added, and the mixture was subjected to separatory extraction with chloroform, and the organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give 2-(3-chloromethyl-benzoylamino)-4,5,6,7-tetrahydro-benzo[b]thiophene-3-carboxylic acid ethyl ester as a useful intermediate (7.42 g, yield 100%).

2-(3-Chloromethyl-benzoylamino)-4,5,6,7-tetrahydro-benzo[b]-thiophene-3-carboxylic acid ethyl ester (800 mg) produced by the above reaction was dissolved in anhydrous methylene chloride (5.0 ml). Triethylamine (580 μl) and N,N-diethylethylenediamine (compound B') (464 mg) were added to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give 2-{3-[(2-diethylamino-ethylamino)-methyl]-benzoylamino}-4,5,6,7-tetrahydro-benzo[b]thiophene-3-carboxylic acid ethyl ester as a crude useful intermediate (902 mg, yield 100%).

2-{3-[(2-Diethylamino-ethylamino)-methyl]-benzoylamino}-4,5,6,7-

tetrahydro-benzo[b]thiophene-3-carboxylic acid ethyl ester produced by the above reaction was dissolved in ethanol (5.0 ml). Hydrazine monohydrate (2 ml) was added to the solution, and the mixture was heated under reflux with stirring for 15 hr. After the completion of the reaction, water was added at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give 3-[(2-diethylamino-ethylamino)-methyl]-N-(3-hydrazinocarbonyl-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl)-

benzamide as a hydrazine compound (464 mg, yield 52%).

3-[(2-Diethylamino-ethylamino)-methyl]-N-(3-hydrazinocarbonyl-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl)-benzamide (77 mg) was dissolved in anhydrous toluene (1.0 ml). Acetic acid (50.0  $\mu$ l) and 3,4-dimethylbenzaldehyde (compound C) (55.0  $\mu$ l) were added to the solution at room temperature, and the mixture was heated under reflux with stirring for 15 hr. After the completion of the reaction, the reaction product was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 652 (58.4 mg, yield 58%).

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  0.98 (6H, m), 1.85 (7H, m), 2.28 (6H, m), 2.45 - 2.90 (12H, m), 3.76 (2H, m), 7.14 (1H, m), 7.32 - 8.12 (7H, m)

Mass spectrometric value (ESI-MS) 600 (M-1)

Compound 653 3-[[Acetyl-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]-thiophen-2-yl]-benzamide

The title compound 653 was produced in substantially the same manner as in Example 9.

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  0.98 (6H, m), 1.83 (7H, m), 2.38 (3H, s), 2.42 - 2.90 (12H, m), 3.75 (2H, m), 7.24 (2H, m), 7.40 - 8.15 (7H, m)

Mass spectrometric value (ESI-MS) 586 (M-1)

Compound 654 3-[[Acetyl-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]-thiophen-2-yl]-benzamide

The title compound 654 was produced in substantially the same manner as in Example 9.

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  0.93 (6H, m), 1.83 (7H, m), 2.48 (4H, m),

2.69 (6H, m), 2.80 (2H, m), 3.75 (2H, m), 7.06 (2H, m), 7.40 - 7.95 (6H, m), 8.09 (1H, s)

Mass spectrometric value (ESI-MS) 590 (M-1)

Compound 655 3-[[Acetyl-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]-thiophen-2-yl]-benzamide

The title compound 655 was produced in substantially the same manner as in Example 9.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.94 (6H, m), 1.83 (7H, m), 2.62 (12H, m), 3.76 (2H, m), 7.08 (1H, m), 7.29 - 8.20 (8H, m)

Mass spectrometric value (ESI-MS) 590 (M-1)

Compound 656 3-[[Acetyl-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 656 was produced in substantially the same manner as in Example 9.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.93 (6H, m), 1.83 (7H, m), 2.62 (12H, m), 3.77 (2H, m), 7.40 - 8.30 (8H, m)

Mass spectrometric value (ESI-MS) 674 (M-1)

Compound 657 3-[[Acetyl-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 657 was produced in substantially the same manner as in Example 9.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (6H, m), 1.87 (7H, m), 2.63 (12H, m), 3.77 (2H, m), 3.84 (3H, s), 6.89 (2H, m), 7.40 - 8.10 (7H, m)

Mass spectrometric value (ESI-MS) 602 (M-1)

Compound 658 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 658 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.80 (2H, m), 2.30 (3H, s), 2.31 (3H, s), 2.53 (2H, t, J = 7.4 Hz), 3.62 (2H, m), 3.85 (2H, s), 7.00 (1H, d, J = 6.1 Hz), 7.18 (1H, d, J = 7.8 Hz), 7.52 (3H, m), 7.64 (2H, m), 7.90 (1H, s), 7.97 (1H, s), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 480 (M-1)

Compound 659 3-(3-Hydroxy-propylsulfanylmethyl)-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 659 was produced in substantially the same manner as in Example 8.

5 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.79 (2H, m), 2.35 (3H, s), 2.53 (2H, t, J = 7.3 Hz), 3.62 (2H, t, J = 6.2 Hz), 3.82 (2H, s), 6.97 (1H, d, J = 5.8 Hz), 7.21 (2H, d, J = 7.8 Hz), 7.49 (2H, m), 7.60 (1H, d, J = 7.80), 7.69 (2H, d, J = 7.8 Hz), 7.87 (1H, m), 7.94 (1H, s), 8.27 (1H, s)

Mass spectrometric value (ESI-MS) 466 (M-1)

10 Compound 660 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 660 was produced in substantially the same manner as in Example 8.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.80 (2H, m), 2.53 (2H, t, J = 7.4 Hz), 3.62 (2H, t, J = 6.4 Hz), 3.82 (2H, s), 6.96 (1H, d, J = 5.9 Hz), 7.14 (2H, dd, J = 8.7 Hz), 7.48 (2H, m), 7.60 (1H, d, J = 7.6 Hz), 7.85 (3H, m), 7.93 (1H, s), 8.29 (1H, s)

Mass spectrometric value (ESI-MS) 470 (M-1)

20 Compound 661 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

The title compound 661 was produced in substantially the same manner as in Example 8.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.80 (2H, m), 2.54 (2H, t, J = 7.3 Hz), 3.62 (2H, t, J = 9.4 Hz), 3.86 (2H, s), 7.03 (1H, d, J = 5.8 Hz), 7.17 (1H, m), 7.42 - 7.80 (6H, m), 7.87 (1H, m), 7.98 (1H, bs), 8.35 (1H, s)

Mass spectrometric value (ESI-MS) 470 (M-1)

Compound 662 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-3-(3-hydroxy-propylsulfanylmethyl)-benzamide

30 The title compound 662 was produced in substantially the same manner as in Example 8.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.80 (1H, m), 2.54 (2H, t, J = 7.3 Hz), 3.62 (2H, t, J = 6.2 Hz), 3.86 (2H, s), 7.03 (1H, d, J = 5.8 Hz), 7.53 (2H, m), 7.66 (2H, m), 7.90 (1H, d, J = 7.8 Hz), 7.98 (1H, bs), 8.04 (1H, d, J = 8.8 Hz), 8.33 (1H, s), 8.38 (1H, s)

Mass spectrometric value (ESI-MS) 554 (M-1)

Compound 663 3-(3-Hydroxy-propylsulfanylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 663 was produced in substantially the same manner as in Example 8.

5  $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  1.80 (2H, m), 2.54 (2H, t,  $J = 7.3$  Hz), 3.62 (2H, t,  $J = 6.2$  Hz), 3.85 (6H, m), 6.99 (2H, d,  $J = 8.8$  Hz), 7.02 (1H, s,  $J = 5.9$  Hz), 7.53 (2H, m), 7.65 (1H, d,  $J = 7.8$  Hz), 7.79 (2H, d,  $J = 8.5$  Hz), 7.90 (1H, d,  $J = 7.8$  Hz), 8.30 (1H, s)

Mass spectrometric value (ESI-MS) 482 (M-1)

10 Compound 664 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 664 was produced in substantially the same manner as in Example 8.

15  $^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  1.04 (6H, t,  $J = 7.1$  Hz), 2.22 (9H, m), 2.62 (8H, m), 3.59 (2H, s), 6.77 (1H, d,  $J = 5.4$  Hz), 7.09 (1H, m), 7.44 (5H, m), 7.94 (2H, d,  $J = 7.6$  Hz), 8.26 (1H, s)

Mass spectrometric value (ESI-MS) 518 (M-1)

Compound 665 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

20 The title compound 665 was produced in substantially the same manner as in Example 8.

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  1.03 (6H, t,  $J = 7.1$  Hz), 2.21 (3H, s), 2.34 (3H, s), 2.59 (8H, m), 3.58 (2H, s), 6.80 (1H, d,  $J = 4.6$  Hz), 7.16 (2H, m), 7.42 (2H, m), 7.58 (3H, m), 7.93 (1H, d,  $J = 7.8$  Hz), 7.98 (1H, s), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 504 (M-1)

Compound 666 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

30 The title compound 666 was produced in substantially the same manner as in Example 8.

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  1.04 (6H, t,  $J = 7.1$  Hz), 2.21 (3H, s), 2.62 (8H, m), 3.58 (2H, s), 6.78 (1H, d,  $J = 4.6$  Hz), 7.02 (2H, m), 7.42 (2H, m), 7.55 (1H, d,  $J = 7.6$  Hz), 7.67 (2H, m), 7.91 (1H, d,  $J = 7.8$  Hz), 7.96 (1H, s), 8.36 (1H, s)

35 Mass spectrometric value (ESI-MS) 508 (M-1)

Compound 667 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[3-



(3-fluoro-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 667 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 2.20 (3H, s), 2.60 (8H, m), 3.57 (2H, s), 6.76 (1H, bs), 7.02 (1H, m), 7.41 (6H, m), 7.91 (1H, d, J = 7.8 Hz), 7.97 (1H, s), 8.38 (1H, bs)

Mass spectrometric value (ESI-MS) 508 (M-1)

Compound 668 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 668 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.02 (6H, t, J = 7.1 Hz), 2.20 (3H, s), 2.58 (8H, m), 3.56 (2H, s), 6.74 (1H, bs), 7.41 (2H, m), 7.54 (2H, d, J = 7.6 Hz), 7.76 (1H, dd, J = 8.3 Hz, J = 1.4 Hz), 7.88 (2H, m), 7.96 (1H, s), 8.45 (1H, bs)

Mass spectrometric value (ESI-MS) 592 (M-1)

Compound 669 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 669 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.01 (6H, t, J = 7.1 Hz), 2.19 (3H, s), 2.56 (8H, m), 3.56 (2H, s), 3.75 (3H, s), 6.75 (1H, m), 6.81 (2H, m), 7.42 (2H, m), 7.87 (3H, m), 7.90 (1H, d, J = 7.84), 7.97 (1H, s), 8.32 (1H, s)

Mass spectrometric value (ESI-MS) 520 (M-1)

Compound 670 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 670 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.11 (6H, m), 2.30 (3H, s), 2.32 (3H, s), 2.52 (4H, m), 3.83 (4H, m), 7.01 (1H, d, J = 5.8 Hz), 7.19 (1H, d, J = 7.8 Hz), 7.53 (3H, m), 7.67 (2H, m), 7.93 (1H, d, J = 7.6 Hz), 8.06 (1H, m), 8.29 (1H, s)

Mass spectrometric value (ESI-MS) 521 (M-1)

Compound 671 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 671 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.11 (6H, d, J = 6.1 Hz), 2.39 (3H, s), 2.52 (4H, m), 3.82 (4H, m), 7.01 (1H, m), 7.26 (2H, d, J = 7.6 Hz), 7.53 (2H, m), 7.68 (1H, d, J = 7.1 Hz), 7.74 (2H, d, J = 7.8 Hz), 7.92 (1H, d, J = 7.6 Hz), 8.06 (1H, m), 8.33 (1H, s)

Mass spectrometric value (ESI-MS) 507 (M-1)

Compound 672 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 672 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.10 (6H, d, J = 6.3 Hz), 2.51 (4H, m), 3.86 (4H, m), 7.02 (1H, d, J = 5.9 Hz), 7.18 (2H, dd, J = 8.4 Hz, J = 8.4 Hz), 7.53 (2H, m), 7.68 (1H, dd, J = 7.6 Hz), 7.91 (3H, m), 8.06 (1H, m), 8.35 (1H, s)

Mass spectrometric value (ESI-MS) 511 (M-1)

Compound 673 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 673 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.11 (6H, m), 2.52 (4H, m), 3.87 (4H, m), 7.03 (1H, d, J = 6.1 Hz), 7.15 (1H, m), 7.40 - 7.75 (6H, m), 7.90 (1H, m), 8.07 (1H, m), 8.36 (1H, m)

Mass spectrometric value (ESI-MS) 511 (M-1)

Compound 674 3-[(4-Chloro-3-trifluoromethyl-benzylidene)-amino]-2-(3-[[2-diethylamino-ethyl]-methyl-amino]-methyl)-phenyl)-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one

The title compound 674 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.99 (6H, t, J = 7.1 Hz), 1.90 (4H, m), 2.12 (3H, s), 2.50 (8H, m), 2.82 (2H, m), 3.05 (2H, m), 3.52 (2H, s), 7.38 (2H, m), 7.54 (2H, m), 7.62 (1H, bs), 7.78 (1H, m), 7.98 (1H, m), 9.18 (1H, s)

Mass spectrometric value (ESI-MS) 630 (M+1)

Compound 675 2-(3-[[2-Diethylamino-ethyl]-methyl-amino]-methyl)-phenyl)-3-[(4-methoxy-benzylidene)-amino]-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one

The title compound 675 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.00 (6H, t, J = 7.1 Hz), 1.89 (4H, m), 2.11 (3H, s), 2.52 (8H, m), 2.81 (2H, m), 3.06 (2H, m), 3.50 (2H, s), 3.84 (3H, s), 6.89 (2H, d, J = 8.8 Hz), 7.35 (2H, m), 7.58 (1H, m), 7.66 (3H, m), 8.77 (1H, s)

Mass spectrometric value (ESI-MS) 558 (M+1)

Compound 676 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-ethanesulfonylmethyl)-benzamide

The title compound 676 was produced in the same manner as in Example 6.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.58 (1H, d, J = 8.8 Hz), 8.34 (1H, s), 8.07 (1H, d, J = 2.2 Hz), 8.00 (2H, s), 7.23 - 7.78 (3H, m), 7.57 - 7.63 (2H, m), 7.27 (2H, d, J = 2.0 Hz), 4.39 (1H, d, J = 13.2 Hz), 4.20 (1H, d, J = 13.2 Hz), 3.96 - 4.05 (2H, m), 3.00 - 3.15 (1H, m), 2.80 - 2.95 (1H, m), 2.39 (3H, s)

Mass spectrometric value (ESI-MS) 556, 558 (M-1)

Compound 677 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-ethanesulfinylmethyl)-benzamide

The title compound 677 was produced in the same manner as in Example 6.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.61 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 8.06 - 8.13 (2H, m), 8.04 (1H, d, J = 8.3 Hz), 7.72 - 7.79 (4H, m), 7.60 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.28 (2H, d, J = 8.1 Hz), 4.83 (2H, s), 4.05 (2H, t, J = 5.6 Hz), 3.20 (2H, t, J = 5.6 Hz), 2.39 (3H, s)

Mass spectrometric value (ESI-MS) 542, 543 (M-1)

Compound 678 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-ethanesulfonylmethyl)-benzamide

The title compound 678 was produced in the same manner as in Example 6.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.55 (1H, d, J = 9.0 Hz), 8.40 (1H, s), 8.32 (1H, s), 8.07 (1H, d, J = 2.0 Hz), 8.05 (1H, s, J = 8.5 Hz), 7.96 - 8.05 (2H, m), 7.77 (1H, dd, J = 2.0 Hz, J = 8.8 Hz), 7.69 (1H, d, J = 8.3 Hz), 7.56 - 7.66 (2H, m), 4.39 (1H, d, J = 12.9 Hz), 4.20 (1H, d, J = 13.2 Hz), 3.96 - 4.03 (2H, m), 3.03 - 3.13 (1H, m), 2.87 (1H, dt, J = 4.2 Hz, J =

13.4 Hz)

Mass spectrometric value (ESI-MS) 664, 646 (M-1)

Compound 679 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-ethanesulfinylmethyl)-

5 benzamide

The title compound 679 was produced in the same manner as in Example 6.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.70 - 8.80 (1H, m), 8.20 - 8.27 (1H, m), 8.05 - 8.15 (2H, m), 7.97 (2H, s), 7.60 - 7.70 (3H, m), 7.49 - 7.60 (2H, m),  
10 4.52 (2H, m), 4.22 - 4.26 (2H, m), 3.10 - 3.15 (2H, m)

Mass spectrometric value (ESI-MS) 628, 630 (M-1)

Compound 680 N-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethylsulfanylmethyl)-benzamide

The title compound 680 was produced in the same manner as in  
15 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.36 (1H, s), 7.93 - 7.97 (2H, m), 7.85 - 7.90 (1H, m), 7.69 (1H, d, J = 10.0 Hz), 7.63 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.58 (2H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.50 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.40 - 7.48 (2H, m), 7.18 (2H, m),  
20 6.29 - 6.33 (1H, m), 6.21 (1H, d, J = 3.2 Hz), 3.81 (2H, s), 3.64 (2H, s)

Mass spectrometric value (ESI-MS) 520, 522 (M-1)

Compound 681 N-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethylsulfanylmethyl)-benzamide

The title compound 681 was produced in the same manner as in  
25 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.35 (1H, s), 7.85 - 7.96 (5H, m), 7.62 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.57 (1H, d, J = 7.8 Hz), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.40 - 7.42 (1H, m), 7.18 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 7.31 (1H, dd, J = 2.0 Hz, J = 3.2 Hz),  
30 6.21 (1H, d, J = 3.2 Hz), 3.81 (2H, s), 3.64 (2H, s)

Mass spectrometric value (ESI-MS) 520, 522 (M-1)

Compound 682 N-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethylsulfanylmethyl)-benzamide

The title compound 682 was produced in the same manner as in  
35 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.33 (1H, s),

7.91 - 7.96 (2H, m), 7.85 - 7.90 (1H, m), 7.73 (2H, d, J = 8.0 Hz), 7.62 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.50 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.40 - 7.42 (1H, m), 7.26 (2H, d, J = 8.1 Hz), 6.29 - 6.33 (1H, m), 6.20 - 6.23 (1H, m), 3.82 (2H, s), 3.64 (2H, s), 2.38 (3H, s)

5 Mass spectrometric value (ESI-MS) 516, 518 (M-1)

Compound 683 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethylsulfanylmethyl)-benzamide

The title compound 683 was produced in the same manner as in

10 Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 8.8 Hz), 8.30 (1H, s), 7.86 - 7.98 (3H, m), 7.48 - 7.78 (5H, m), 7.41 (1H, s), 7.15 - 7.27 (1H, m), 6.29 - 6.35 (1H, m), 6.20 - 6.25 (1H, m), 3.82 (2H, s), 3.64 (2H, s), 2.31 (6H, s)

15 Mass spectrometric value (ESI-MS) 530, 532 (M-1)

Compound 684 N1-[4-Chloro-2-({2-[(E)-1-(3,4-dimethylphenyl)methylidene]hydrazino}carbonyl)phenyl]-3-[[3-[(3-[4-chloro-2-({2-[(E)-1-(3,4-dimethylphenyl)methylidene]hydrazino}carbonyl)anilino}carbonyl)benzyl](methyl)amino)propyl](methyl)amino)methyl]benzamide

20 The title compound 684 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.57 (2H, s), 10.57 (2H, s), 8.67 (2H, d, J = 9.0 Hz), 8.44 (2H, s), 7.80 (2H, s), 7.71 - 7.73 (2H, m), 7.64 (2H, s), 25 7.56 (2H, s), 7.38 (4H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.20 - 7.35 (4H, m), 7.10 (2H, d, J = 7.8 Hz), 3.53 (4H, s), 2.46 (4H, s), 2.23 (6H, s), 2.18 (6H, s), 2.14 (6H, s), 1.80 (2H, s), 1.61 (4H, s)

Mass spectrometric value (ESI-MS) 935 (M-1)

Compound 685 N1-[4-Chloro-2-({2-[(E)-1-(3-fluorophenyl)methylidene]hydrazino}carbonyl)phenyl]-3-[[3-[(3-[4-chloro-2-({2-[(E)-1-(3-fluorophenyl)methylidene]hydrazino}carbonyl)-anilino}carbonyl)benzyl](methyl)amino)propyl](methyl)amino]methyl]benzamide

The title compound 685 was produced in the same manner as in

35 Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.59 (2H, d, J = 9.0 Hz), 8.40 (2H, s),

7.88 - 7.90 (4H, m), 7.85 (2H, s), 7.79 (2H, d, J = 7.1 Hz), 7.63 (2H, d, J = 10.5 Hz), 7.52 - 7.58 (4H, m), 7.35 - 7.45 (6H, m), 7.12 - 7.20 (2H, m), 3.62 (4H, s), 2.53 (4H, m), 2.23 (6H, s), 1.78 - 1.85 (2H, m)

Mass spectrometric value (ESI-MS) 915 (M-1)

5    Compound 686            N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethanesulfonylmethyl)-benzamide

The title compound 686 was produced in the same manner as in Example 6.

10    <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.30 (1H, s), 8.01 (2H, s), 7.88 - 7.94 (2H, m), 7.52 - 7.68 (5H, m), 7.20 (1H, d, J = 7.8 Hz), 6.50 (1H, d, J = 3.2 Hz), 6.42 - 6.45 (1H, m), 4.25 - 4.37 (2H, m), 4.11 (1H, d, J = 4.7 Hz), 4.08 (1H, d, J = 4.7 Hz), 2.32 (3H, s), 2.31 (3H, s)

Mass spectrometric value (ESI-MS) 562, 564 (M-1)

15    Compound 687            N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethanesulfinylmethyl)-benzamide

The title compound 687 was produced in the same manner as in Example 6.

20    <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 6.37 (1H, s), 8.72 (1H, d, J = 8.0 Hz), 8.00 - 8.22 (3H, m), 7.40 - 7.80 (7H, m), 6.54 (1H, d, J = 3.4 Hz), 6.40 - 6.45 (1H, m), 4.29 (2H, s), 4.20 (2H, s), 2.29 (6H, s)

Mass spectrometric value (ESI-MS) 546, 548 (M-1)

25    Compound 688            N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethanesulfonylmethyl)-benzamide

The title compound 688 was produced in the same manner as in Example 6.

30    <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.60 (1H, d, J = 9.0 Hz), 8.39 (1H, s), 8.32 (1H, s), 7.89 - 8.07 (4H, m), 7.55 - 7.73 (5H, m), 6.49 (1H, m), 6.41 - 6.46 (1H, m), 4.31 (2H, dd, J = 13.4 Hz, J = 15.8 Hz), 4.09 (2H, dd, J = 10.0 Hz, J = 14.2 Hz)

Mass spectrometric value (ESI-MS) 636, 638 (M-1)

35    Compound 689            N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethanesulfinylmethyl)-benzamide

The title compound 689 was produced in the same manner as in Example 6.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.60 (1H, d, J = 9.3 Hz), 8.39 (1H, s), 8.32 (1H, s), 7.98 - 8.09 (3H, m), 7.94 (1H, d, J = 2.2 Hz), 7.69 (2H, d, J = 8.0 Hz), 7.56 - 7.67 (3H, m), 6.55 (1H, d, J = 3.2 Hz), 6.40 - 6.47 (1H, m), 4.54 (2H, s), 4.51 (2H, s)

Mass spectrometric value (ESI-MS) 620 (M-1)

Compound 690 N1-[4-Chloro-2-({2-[(E)-1-(4-chloro-3-trifluoromethyl-phenyl)methylidene]hydrazino}carbonyl)phenyl)-3-{{6-[(3-{[4-chloro-2-({2-[(E)-1-(4-chloro-3-trifluoromethyl-phenyl)methylidene]hydrazino}-carbonyl)anilino}carbonyl}benzyl)(methyl)amino)hexyl)(methyl)amino]-methyl]benzamide

The title compound 690 was produced in the same manner as in Example 8.

Mass spectrometric value (ESI-MS) 1125, 1127 (M-1)

Compound 691 2-{3-[4-Chloro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 691 was produced in the same manner as in Example 11.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.53 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 7.40 - 8.00 (10H, m), 4.84 (2H, s), 2.90 - 3.10 (2H, m), 2.70 - 2.86 (2H, m)

Mass spectrometric value (ESI-MS) 548 (M-1)

Compound 692 2-{3-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 692 was produced in the same manner as in Example 11.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.56 (1H, d, J = 8.8 Hz), 7.20 - 8.35 (11H, m), 3.84 - 3.90 (2H, m), 2.92 - 3.04 (2H, m), 2.70 - 2.88 (2H, m), 2.30 - 2.40 (3H, m)

Mass spectrometric value (ESI-MS) 544 (M-1)

Compound 693 2-{3-[4-Chloro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 693 was produced in the same manner as in Example 11.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.55 (1H, d, J = 8.8 Hz), 8.32 (1H, s), 7.10 - 8.00 (10H, m), 3.88 (2H, s), 2.90 - 3.10 (2H, m), 2.68 - 2.86 (2H, m), 2.38 (3H, s)

Mass spectrometric value (ESI-MS) 544 (M-1)

Compound 694 2-{3-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 694 was produced in the same manner as in Example 11.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.56 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.46 - 8.00 (8H, m), 7.18 - 7.25 (1H, m), 3.87 (2H, s), 2.94 - 3.10 (2H, m), 2.75 - 2.86 (2H, m), 2.25 - 2.35 (6H, m)

Mass spectrometric value (ESI-MS) 582 (M+23)

Compound 695 6-Bromo-3-[(4-fluoro-benzylidene-)-amino]-2-[3-(2-hydroxy-ethylsulfanylmethyl)-phenyl]-3H-quinazolin-4-one

The title compound 695 was produced in the same manner as in Example 10.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.98 - 9.00 (1H, m), 8.46 (1H, s), 7.85 (1H, dd, J = 2.2 Hz, J = 8.5 Hz), 7.65 - 7.72 (3H, m), 7.58 (1H, dd, J = 1.7 Hz, J = 7.3 Hz), 7.35 - 7.43 (2H, m), 7.07 - 7.13 (3H, m), 3.73 (2H, s), 3.56 - 3.64 (2H, m), 2.52 - 2.58 (2H, m)

Mass spectrometric value (ESI-MS) 534, 536, 537 (M+23)

Compound 696 6-Bromo-2-[3-(2-hydroxy-ethylsulfanylmethyl)-phenyl]-3-[(4-methyl-benzylidene-)-amino]-3H-quinazolin-4-one

The title compound 696 was produced in the same manner as in Example 10.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.85 (1H, s), 8.41 (1H, d, J = 2.2 Hz), 7.91 (1H, d, J = 8.0 Hz), 7.79 (1H, dd, J = 2.4 Hz, J = 8.8 Hz), 7.59 - 7.64 (2H, m), 7.52 - 7.56 (3H, m), 7.28 - 7.36 (2H, m), 7.14 - 7.20 (1H, m), 3.67 (2H, s), 3.49 (2H, t, J = 6.0 Hz), 2.46 (2H, t, J = 6.0 Hz), 2.36 (1H, s), 2.33 (3H, s)

Mass spectrometric value (ESI-MS) 530, 532, 533 (M+23)

Compound 697 6-Bromo-3-[(3,4-dimethyl-benzylidene-)-amino]-2-[3-(2-hydroxy-ethylsulfanylmethyl)-phenyl]-3H-quinazolin-4-one



The title compound 697 was produced in the same manner as in Example 10.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.78 (1H, s), 8.41 (2H, d, J = 2.2 Hz), 7.79 (1H, dd, J = 2.4 Hz, J = 8.8 Hz), 7.64 (1H, s), 7.60 (1H, d, J = 8.8 Hz), 7.53 - 7.57 (1H, m), 7.42 (1H, s), 7.28 - 7.38 (3H, m), 7.11 (1H, d, J = 7.8 Hz), 3.67 (2H, s), 3.49 (2H, t, J = 6.0 Hz), 2.46 (2H, t, J = 6.0 Hz), 2.24 (3H, s), 2.22 - 2.27 (1H, m), 2.20 (3H, s)

Mass spectrometric value (ESI-MS) 546, 547 (M+23)

Compound 698 6-Bromo-3-[(4-chloro-3-trifluoromethyl-benzylidene)-(amino)-2-[3-(2-hydroxy-ethylsulfanylmethyl)-phenyl]-3H-quinazolin-4-one

The title compound 698 was produced in the same manner as in Example 10.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 9.27 (1H, s), 8.46 (1H, d, J = 2.2 Hz), 7.94 (1H, s), 7.86 (1H, dd, J = 2.2 Hz, J = 8.5 Hz), 7.75 (1H, d, J = 8.3 Hz), 7.65 - 7.68 (2H, m), 7.54 (2H, d, J = 7.8 Hz), 7.32 - 7.45 (2H, m), 3.75 (2H, s), 3.61 (2H, dt, J = 5.9 Hz, J = 5.9 Hz), 2.57 (2H, t, J = 6.0 Hz), 2.03 (1H, t, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 620 (M+23)

Compound 699 N-[4-Chloro-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethylsulfanylmethyl)-benzamide

The title compound 699 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 7.91 - 7.96 (2H, m), 7.85 - 7.90 (1H, m), 7.69 (1H, s), 7.61 (2H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.57 (1H, d, J = 7.8 Hz), 7.49 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.41 (1H, dd, J = 0.8 Hz, J = 2.0 Hz), 7.24 - 7.34 (2H, m), 6.30 (1H, dd, J = 2.0 Hz, J = 3.2 Hz), 6.21 (1H, d, J = 3.2 Hz), 3.81 (2H, s), 3.63 (2H, s), 2.38 (3H, s)

Mass spectrometric value (ESI-MS) 516, 518 (M-1)

Compound 700 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(furan-2-ylmethylsulfanylmethyl)-benzamide

The title compound 700 was produced in the same manner as in Example 5.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.62 (1H, d, J = 9.0 Hz), 8.39 (1H, s), 8.31 (1H, s), 8.04 (1H, d, J = 6.8 Hz), 7.92 - 7.96 (2H, m), 7.87 (1H, d, J

= 7.8 Hz), 7.69 (1H, d, J = 8.6 Hz), 7.64 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.57 (1H, d, 7.6 Hz), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.40 (1H, dd, J = 0.8 Hz, J = 2.0 Hz), 6.28 - 6.33 (1H, m), 6.21 (1H, d, J = 7.3 Hz), 3.81 (2H, s), 3.64 (2H, s)

5 Mass spectrometric value (ESI-MS) 604, 606 (M-1)

Compound 701 N1-[4-Chloro-2-({2-[(E)-1-(4-fluorophenyl)methylidene]hydrazino}carbonyl)phenyl]-3-[[{3-[(3-[[4-chloro-2-({2-[(E)-1-(4-fluorophenyl)methylidene]hydrazino}carbonyl)anilino}carbonyl]benzyl)-(methyl)amino)propyl](methyl)amino]methyl]benzamide

10 The title compound 701 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.59 (2H, d, J = 8.8 Hz), 8.41 (2H, s), 7.82 - 7.90 (8H, m), 7.79 (2H, d, J = 7.1 Hz), 7.53 (2H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.35 - 7.45 (4H, m), 7.14 (4H, dd, J = 8.8 Hz, J = 8.8 Hz), 3.59 (4H, s), 2.49 (4H, t, J = 6.8 Hz), 2.20 (6H, s), 1.75 - 1.85 (2H, m)

15 Mass spectrometric value (ESI-MS) 915, 917 (M-1)

Compound 702 N1-[4-Chloro-2-({2-[(E)-1-(4-methylphenyl)methylidene]hydrazino}carbonyl)phenyl]-3-[[{3-[(3-[[4-chloro-2-({2-[(E)-1-(4-methylphenyl)methylidene]hydrazino}carbonyl)anilino}carbonyl]benzyl)-(methyl)amino)propyl](methyl)amino]methyl]benzamide

20 The title compound 702 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.66 (2H, d, J = 9.0 Hz), 8.46 (2H, s), 7.72 - 7.82 (4H, m), 7.58 - 7.68 (6H, m), 7.25 - 7.40 (4H, m), 7.12 - 7.16 (6H, m), 3.53 (4H, bs), 2.46 (4H, bs), 2.15 (6H, bs), 1.81 (2H, bs)

25 Mass spectrometric value (ESI-MS) 907, 909 (M-1)

### Example 10

Compound 703 2-(3-{6-Chloro-3-[(4-chloro-3-trifluoromethylbenzylidene)-amino]-4-oxo-3,4-dihydro-quinazolin-2-yl}-benzylsulfanyl)-ethanesulfonic acid

30 Methyl 2-amino-5-chlorobenzoate (compound A) (4.0 g) was dissolved in anhydrous methylene chloride (80.0 ml). Subsequently, pyridine (2.8 ml) and 3-(chloromethyl)benzoyl chloride (compound B) (5.0 g) were added to the solution at room temperature, and the mixture was stirred at that temperature for 2 hr. After the completion of the reaction, distilled water was added thereto, and the mixture was

subjected to separatory extraction with chloroform. The organic layer was washed with a saturated aqueous sodium chloride solution and saturated brine, was dried over sodium sulfate, and was then concentrated to give methyl 5-chloro-2-[3-(chloromethyl)benzoyl]aminobenzoate as a useful intermediate (3.32 g, yield 100%).

Subsequently, methyl 5-chloro-2-[3-(chloromethyl)benzoyl]aminobenzoate (1.8 g) was dissolved in anhydrous methylene chloride. Triethylamine (1.5 ml) and 2-mercaptoethanesulfonic acid sodium salt (compound B') (1.3 g) were added to the solution at room temperature, and the mixture was stirred at 40°C for 4 days. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with a saturated aqueous sodium chloride solution, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography on silica gel to give 5-chloro-2-[3-(2-sulfo-ethylsulfanylmethyl)-benzoylamino]-benzoic acid methyl ester as a useful intermediate (1.08 g, yield 46.1%).

5-Chloro-2-[3-(2-sulfo-ethylsulfanylmethyl)-benzoylamino]-benzoic acid methyl ester (1.08 g) produced by the above reaction was dissolved in ethanol (11.0 ml). Hydrazine monohydrate (1.0 ml) was added to the solution at room temperature, and the mixture was heated under reflux with stirring for 3 days. After the completion of the reaction, the reaction solution was allowed to cool at room temperature. The reaction solution as such was then concentrated, and the residue was purified by column chromatography on silica gel to give 2-[3-(3-amino-6-chloro-4-oxo-3,4-dihydroquinazolin-2-yl)-benzylsulfanyl]-ethanesulfonic acid as a quinazalone compound (542 mg, yield 52.1%).

2-[3-(3-Amino-6-chloro-4-oxo-3,4-dihydroquinazolin-2-yl)-benzylsulfanyl]-ethanesulfonic acid (50.0 mg) was dissolved in anhydrous toluene (1.0 ml). Subsequently, 4-chloro-3-trifluoromethylbenzaldehyde (compound C) (50.0  $\mu$ l) was added to the solution at room temperature, and the mixture was heated under reflux with stirring for 12 hr. After the completion of the reaction, the reaction solution was allowed to cool at room temperature, distilled water was added thereto, and the mixture was subjected to separatory extraction

with chloroform. The organic layer was washed with a saturated aqueous sodium chloride solution and saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography on silica gel, followed by drying through a vacuum pump to give the title compound 703 (32.0 mg, yield 44.0%).

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 9.16 (1H, s), 8.15 - 8.25 (1H, m), 7.38 - 7.90 (9H, m), 3.84 (2H, s), 2.97 - 3.05 (2H, m), 2.80 - 2.87 (2H, m)

Mass spectrometric value (ESI-MS) 614, 616 (M-1)

Compound 704 N1-[4-Chloro-2-({2-[(E)-1-(3-fluorophenyl)methylidene]hydrazino}carbonyl)phenyl]-3-{{6-[(3-{4-chloro-2-({2-[(E)-1-(3-fluorophenyl)methylidene]hydrazino}carbonyl)-anilino}carbonyl)benzyl]}(methyl)amino)hexyl}(methyl)amino]methyl]-benzamide

The title compound 704 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.60 (2H, d, J = 9.0 Hz), 8.35 (2H, s), 7.88 - 7.95 (4H, m), 7.30 - 7.80 (14H, m), 7.10 - 7.20 (2H, m), 3.69 (4H, s), 2.47 (4H, t, J = 7.3 Hz), 2.27 (6H, s), 1.50 - 1.60 (4H, m), 1.25 - 1.37 (4H, m)

Mass spectrometric value (ESI-MS) 957 (M-1)

Compound 705 N1-[4-Chloro-2-({2-[(E)-1-(3-methylphenyl)methylidene]hydrazino}carbonyl)phenyl]-3-{{6-[(3-{[4-chloro-2-({2-[(E)-1-(3-methylphenyl)methylidene]hydrazino}carbonyl)-anilino}carbonyl)benzyl]}(methyl)amino)hexyl}(methyl)amino]methyl]-benzamide

The title compound 705 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.61 (2H, d, J = 8.8 Hz), 8.35 (2H, s), 7.85 - 7.93 (4H, s), 7.63 (2H, s), 7.45 - 7.57 (10H, m), 7.14 - 7.30 (4H, m), 3.58 (4H, s), 2.35 - 2.45 (4H, m), 2.34 (6H, s), 2.18 (6H, s), 1.53 (4H, bs), 1.32 (4H, bs)

Mass spectrometric value (ESI-MS) 949 (M-1)

Compound 706 N1-[4-Chloro-2-({2-[(E)-1-(4-methylphenyl)methylidene]hydrazino}carbonyl)phenyl]-3-{{6-[(3-{[4-chloro-2-({2-[(E)-1-(4-methylphenyl)methylidene]hydrazino}carbonyl)-anilino}carbonyl)benzyl]}(methyl)amino)hexyl}(methyl)amino]methyl]-

benzamide

The title compound 706 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.60 (2H, d, J = 8.8 Hz), 8.34 (2H, s), 7.83 - 7.98 (8H, m), 7.66 (2H, d, J = 7.8 Hz), 7.48 - 7.60 (4H, m), 7.21 (6H, d, J = 7.8 Hz), 3.78 (4H, s), 2.55 - 2.60 (4H, m), 2.30 - 2.35 (12H, m), 1.59 (4H, bs), 1.35 (4H, bs)

Mass spectrometric value (ESI-MS) 949 (M-1)

Compound 707 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

The title compound 707 was produced in the same manner as in Example 8.

Mass spectrometric value (ESI-MS) 609, 611, 612 (M-1)

Compound 708 2-{3-[4-Chloro-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 708 was produced in the same manner as in Example 11.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.54 (1H, d, J = 8.8 Hz), 8.34 (1H, s), 7.98 (1H, s), 7.35 - 7.92 (7H, m), 7.14 - 7.22 (2H, m), 3.88 (2H, s), 2.95 - 3.06 (2H, m), 2.70 - 2.86 (2H, m)

Mass spectrometric value (ESI-MS) 548 (M-1)

Example 11

Compound 709 2-{3-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

Methyl 2-amino-5-chlorobenzoate (compound A) (4.0 g) was dissolved in anhydrous methylene chloride (80.0 ml). Subsequently, pyridine (2.8 ml) and 3-(chloromethyl)benzoyl chloride (compound B) (5.0 g) were added to the solution at room temperature, and the mixture was stirred at that temperature for 2 hr. After the completion of the reaction, distilled water was added thereto, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with a saturated aqueous sodium chloride solution and saturated brine, was dried over sodium sulfate, and was then

concentrated to give methyl 5-chloro-2-[3-(chloromethyl)benzoyl]aminobenzoate (3.32 g, yield 100%) as a useful intermediate.

Subsequently, methyl 5-chloro-2-[3-(chloromethyl)benzoyl]aminobenzoate (1.8 g) was dissolved in anhydrous methylene chloride. Triethylamine (1.5 ml) and 2-mercaptoethanesulfonic acid sodium salt (compound B') (1.3 g) were added to the solution at room temperature, and the mixture was stirred at 40°C for 4 days. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with a saturated aqueous sodium chloride solution, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography on silica gel to give 5-chloro-2-[3-(2-sulfo-ethylsulfanylmethyl)-benzoylamino]-benzoic acid methyl ester (1.08 g, yield 46.1%) as a useful intermediate.

5-Chloro-2-[3-(2-sulfo-ethylsulfanylmethyl)-benzoylamino]-benzoic acid methyl ester (1.27 g) produced by the above reaction was dissolved in ethanol (15.0 ml). Hydrazine monohydrate (2.0 ml) was added to the solution at room temperature, and the mixture was stirred at 40°C for 12 hr. After the completion of the reaction, the reaction solution was allowed to cool at room temperature. The reaction solution as such was then concentrated, and the residue was purified by column chromatography on silica gel to give 2-[3-(4-chloro-2-hydrazinocarbonyl-phenylcarbamoyl)-benzylsulfanyl]-ethanesulfonic acid as a hydrazine compound (820 mg, yield 67.2%).

2-[3-(4-Chloro-2-hydrazinocarbonyl-phenylcarbamoyl)-benzylsulfanyl]-ethanesulfonic acid (50.0 mg) was dissolved in anhydrous toluene (1.0 ml). Subsequently, 4-chloro-3-trifluoromethylbenzaldehyde (compound C) (50.0  $\mu$ l) was added to the solution at room temperature, and the mixture was heated under reflux with stirring for 12 hr. After the completion of the reaction, the reaction solution was allowed to cool at room temperature, distilled water was added thereto, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with a saturated aqueous sodium chloride solution and saturated brine, was dried over

sodium sulfate, and was then concentrated. The residue was purified by column chromatography on silica gel and was dried through a vacuum pump to give the title compound 709 (47.2 mg, yield 56.0%).

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.52 (1H, d, J = 9.0 Hz), 7.38 - 8.40 (10H, m), 3.89 (2H, s), 2.94 - 3.06 (2H, m), 2.70 - 2.88 (2H, m)

Mass spectrometric value (ESI-MS) 632 (M-1)

Compound 710 3-{[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[4-methyl-2-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 710 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.18 (1H, bs), 7.88 - 8.03 (3H, m), 7.64 - 7.70 (2H, m), 7.59 (1H, d, J = 7.8 Hz), 7.46 - 7.55 (1H, m), 7.25 (2H, bs), 3.64 (2H, s), 2.72 (2H, bs), 2.53 - 2.65 (6H, m), 2.37 (3H, s), 2.28 (3H, s), 2.24 (3H, s), 1.04 (6H, t, J = 7.3 Hz)

Mass spectrometric value (ESI-MS) 520 (M+1)

Compound 711 3-{[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

The title compound 711 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 7.88 - 8.18 (3H, m), 7.37 - 7.64 (5H, m), 7.19 (1H, s), 3.63 (2H, s), 2.67 - 2.75 (2H, m), 2.53 - 2.65 (6H, m), 2.20 - 2.35 (12H, m), 0.98 - 1.10 (6H, m)

Mass spectrometric value (ESI-MS) 532 (M-1), 534 (M+1)

Compound 712 3-{[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-3-yl]-benzamide

The title compound 712 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 7.90 - 8.03 (3H, m), 7.72 (2H, d, J = 8.1 Hz), 7.59 (1H, d, J = 7.3 Hz), 7.38 - 7.56 (2H, m), 6.97 (2H, bs), 3.84 (2H, s), 3.64 (2H, s), 2.67 - 2.75 (2H, m), 2.53 - 2.65 (6H, m), 2.27 (3H, s), 2.24 (3H, s), 1.00 - 1.10 (6H, m)

Mass spectrometric value (ESI-MS) 534 (M-1), 536 (M+1)

Compound 713 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-

phenyl]-4-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide

The title compound 713 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.43 (2H, bs), 7.99 (2H, d, J = 7.8 Hz),  
 5 7.68 (1H, s), 7.36 - 7.60 (6H, m), 7.13 (1H, ddd, J = 8.3 Hz, J = 8.3 Hz, J = 2.0 Hz), 3.89 (2H, s), 3.68 - 3.73 (4H, m), 2.72 (2H, t, J = 5.9 Hz), 2.53 (2H, t, J = 6.0 Hz), 2.43 (4H, t, J = 4.4 Hz)

Mass spectrometric value (ESI-MS) 582 (M-1)

Compound 714 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-  
 10 hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide

The title compound 714 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.51 (1H, s), 8.31 (1H, d, J = 8.3 Hz), 8.06  
 15 (1H, s), 7.99 (3H, d, J = 7.6 Hz), 7.65 (1H, s), 7.58 (1H, d, J = 8.3 Hz), 7.47 (3H, d, J = 7.7 Hz), 3.89 (2H, s), 3.71 (4H, t, J = 4.5 Hz), 2.71 (2H, t, J = 6.0 Hz), 2.53 (2H, t, J = 6.0 Hz), 2.43 (4H, bs)

Mass spectrometric value (ESI-MS) 664, 666 (M-1)

Compound 715 N-[4-Bromo-2-(4-methoxy-benzylidene-  
 20 hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide

The title compound 715 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.43 (1H, d, J = 8.8 Hz), 8.38 (1H, s), 7.98  
 25 (2H, d, J = 8.1 Hz), 7.68 - 7.77 (3H, m), 7.48 (1H, d, J = 8.8 Hz), 7.41 (2H, d, J = 8.8 Hz), 6.90 (2H, d, J = 8.8 Hz), 3.86 (2H, s), 3.81 (3H, s), 3.68 - 3.72 (4H, m), 2.69 (2H, t, J = 6.0 Hz), 2.51 (2H, t, J = 6.0 Hz), 2.38 - 2.45 (4H, m)

Mass spectrometric value (ESI-MS) 592 (M-1)

Compound 716 N-[4-Bromo-2-(3-methoxy-benzylidene-  
 30 hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-ethylamino)-methyl]-benzamide

The title compound 716 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.40 - 8.46 (2H, m), 7.98 (2H, d, J = 7.8  
 35 Hz), 7.71 (1H, s), 7.49 (1H, d, J = 8.5 Hz), 7.42 (2H, d, J = 8.0 Hz), 7.35



(1H, s), 7.30 (2H, d, J = 5.6 Hz), 3.86 (2H, s), 3.84 (3H, s), 3.70 (4H, t, J = 4.6 Hz), 2.69 (2H, t, J = 4.6 Hz), 2.51 (2H, t, J = 5.8 Hz), 2.40 - 2.47 (4H, m)

Mass spectrometric value (ESI-MS) 596 (M+1)

5 Compound 717 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(4-fluoro-phenyl)-piperazin-1-ylmethyl]-benzamide

The title compound 717 was produced in the same manner as in Example 8.

10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.57 (1H, d, J = 9.0 Hz), 8.28 (1H, s), 8.00 (2H, d, J = 7.6 Hz), 7.55 - 7.73 (3H, m), 7.48 (3H, d, J = 8.1 Hz), 7.18 (1H, d, J = 7.8 Hz), 6.93 - 6.98 (2H, m), 6.85 - 6.90 (2H, m), 3.63 (2H, s), 3.13 (4H, t, J = 4.6 Hz), 2.62 (4H, bs), 2.30 (3H, s), 2.29 (3H, s)

Mass spectrometric value (ESI-MS) 642 (M-1)

15 Compound 718 4-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 718 was produced in the same manner as in Example 8.

20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.53 (1H, d, J = 8.6 Hz), 8.35 (1H, s), 8.02 (2H, d, J = 7.3 Hz), 7.70 (2H, s), 7.53 - 7.60 (2H, m), 7.45 (2H, d, J = 8.1 Hz), 7.32 (1H, dd, J = 7.4 Hz, J = 7.4 Hz), 3.60 - 3.99 (4H, m), 2.42 - 2.66 (4H, m), 2.39 (3H, s), 1.12 (6H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 581 (M+1)

25 Compound 719 4-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 719 was produced in the same manner as in Example 8.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.53 (1H, bs), 8.37 (1H, bs), 8.00 (2H, bs), 7.81 (2H, bs), 7.70 (1H, bs), 7.40 - 7.60 (3H, m), 7.05 - 7.15 (2H, m), 3.83 - 3.98 (2H, m), 3.65 - 3.78 (2H, m), 2.45 - 2.60 (4H, m), 1.20 - 1.30 (3H, m), 1.06 - 1.16 (3H, m)

Mass spectrometric value (ESI-MS) 587 (M+1)

35 Compound 720 4-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 720 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.45 - 8.54 (1H, m), 8.39 (1H, s), 8.00 (2H, d, J = 8.3 Hz), 7.36 - 7.74 (7H, m), 7.10 - 7.20 (1H, m), 3.80 - 4.02 (4H, m), 2.47 - 2.60 (4H, m), 1.12 (6H, d, J = 6.4 Hz)

Mass spectrometric value (ESI-MS) 585 (M+1)

- 5 Compound 721 4-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 721 was produced in the same manner as in Example 8.

- 10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.46 (2H, bs), 7.95 - 8.08 (3H, m), 7.45 - 7.75 (4H, m), 7.13 - 7.20 (2H, m), 3.60 - 4.03 (4H, m), 2.47 - 2.68 (4H, m), 1.12 (6H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 667, 669 (M-1)

- 15 Compound 722 4-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 722 was produced in the same manner as in Example 8.

- 20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.37 - 8.47 (2H, m), 7.98 (2H, d, J = 7.8 Hz), 7.70 - 7.74 (3H, m), 7.38 - 7.53 (3H, m), 6.90 (2H, d, J = 8.8 Hz), 3.77 - 3.95 (4H, m), 3.81 (3H, s), 2.42 - 2.64 (4H, m), 1.08 - 1.14 (6H, m)

Mass spectrometric value (ESI-MS) 597 (M+1)

- 25 Compound 723 4-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 723 was produced in the same manner as in Example 8.

- 30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.57 (1H, d, J = 8.5 Hz), 8.34 (1H, s), 8.00 (2H, d, J = 7.1 Hz), 7.72 (1H, s), 7.55 - 7.62 (1H, m), 7.46 (2H, d, J = 8.0 Hz), 7.30 - 7.40 (3H, m), 6.95 - 7.02 (1H, m), 3.80 - 4.00 (4H, m), 3.86 (3H, s), 2.40 - 2.65 (4H, m), 1.09 - 1.15 (6H, m)

Mass spectrometric value (ESI-MS) 597 (M-1)

- 35 Compound 724 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-([2-hydroxy-2-(4-hydroxy-phenyl)-ethyl]-methyl-amino)-methyl)-benzamide

The title compound 724 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.56 - 8.66 (1H, m), 7.96 (2H, dd, J = 2.2

Hz, J = 8.3 Hz), 7.87 (1H, d, J = 2.4 Hz), 7.65 - 7.78 (3H, m), 7.46 - 7.56 (3H, m), 7.13 - 7.22 (3H, m), 6.72 - 6.78 (2H, m), 4.80 - 4.90 (1H, m), 3.75 - 3.90 (2H, m), 2.73 - 2.82 (1H, m), 2.58 - 2.66 (1H, m), 2.40 - 2.45 (3H, m), 2.28 - 2.32 (6H, m)

5 Mass spectrometric value (ESI-MS) 629 (M-1)

Compound 725 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-([2-hydroxy-2-(4-hydroxy-phenyl)-ethyl]-methyl-amino)-methyl)-benzamide

The title compound 725 was produced in the same manner as in

10 Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.61 (1H, d, J = 8.0 Hz), 8.36 (1H, s), 8.07 (1H, d, J = 2.2 Hz), 7.92 (2H, d, J = 2.2 Hz), 7.56 (1H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.70 (1H, d, J = 9.3 Hz), 7.60 (1H, d, J = 7.8 Hz), 7.42 - 7.49 (3H, m), 7.10 - 7.24 (3H, m), 6.75 (2H, d, J = 8.6 Hz), 4.70 - 4.75 (1H, m), 3.68 (2H, d, J = 4.4 Hz), 2.67 (1H, dd, J = 12.7 Hz, J = 8.5 Hz), 2.50 (1H, dd, J = 4.9 Hz, J = 12.7 Hz), 2.33 (3H, s)

Mass spectrometric value (ESI-MS) 619 (M-1)

Compound 726 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-([2-hydroxy-2-(4-hydroxy-phenyl)-ethyl]-methyl-amino)-methyl)-benzamide

The title compound 726 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.61 (1H, d, J = 9.0 Hz), 8.40 (1H, s), 8.34 (1H, s), 8.04 - 8.10 (2H, m), 7.90 - 7.95 (2H, m), 7.77 (1H, dd, J = 9.0 Hz, J = 2.4 Hz), 7.69 (1H, d, J = 8.3 Hz), 7.45 (2H, d, J = 8.3 Hz), 7.13 (2H, d, J = 8.6 Hz), 6.75 (2H, d, J = 8.6 Hz), 4.70 - 4.80 (1H, m), 3.70 (2H, d, J = 4.4 Hz), 2.68 (1H, dd, J = 8.3 Hz, J = 12.8 Hz), 2.52 (1H, dd, J = 4.6 Hz, J = 12.7 Hz), 2.36 (3H, s)

Mass spectrometric value (ESI-MS) 701, 703 (M-1)

30 Compound 727 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-([2-hydroxy-2-(4-hydroxy-phenyl)-ethyl]-methyl-amino)-methyl)-benzamide

The title compound 727 was produced in the same manner as in Example 8.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 8.07 (1H, d, J = 2.4 Hz), 7.94 (2H, d, J = 8.3 Hz), 7.75 (1H, dd, J = 8.8

Hz, J = 2.2 Hz), 7.61 (1H, bs), 7.44 (2H, d, J = 8.3 Hz), 7.26 - 7.36 (2H, m), 7.13 (2H, d, J = 8.3 Hz), 6.97 - 7.03 (1H, m), 6.76 (2H, d, J = 8.6 Hz), 4.72 - 4.82 (1H, m), 3.84 (3H, s), 3.76 (2H, d, J = 5.8 Hz), 2.72 (1H, dd, J = 8.6 Hz, J = 13.0 Hz), 2.41 (3H, s), 2.57 (1H, dd, J = 4.9 Hz, J = 13.0 Hz)

Mass spectrometric value (ESI-MS) 629 (M-1)

Compound 728 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-morpholin-4-yl-2-oxo-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 728 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.49 (1H, d, J = 9.0 Hz), 8.41 (1H, s), 7.97 (2H, d, J = 7.8 Hz), 7.73 (1H, s), 7.68 (1H, d, J = 7.6 Hz), 7.51 (1H, d, J = 7.8 Hz), 7.41 (2H, d, J = 7.8 Hz), 7.19 - 7.23 (3H, m), 3.47 - 3.75 (10H, m), 3.16 (2H, s), 2.40 - 2.56 (8H, m), 2.36 (3H, s)

Mass spectrometric value (ESI-MS) 659 (M-1)

Compound 729 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-morpholin-4-yl-2-oxo-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 729 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.48 (1H, d, J = 8.8 Hz), 8.42 (1H, s), 7.97 (2H, d, J = 7.8 Hz), 7.66 - 7.75 (2H, m), 7.49 - 7.56 (2H, m), 7.41 (2H, d, J = 7.8 Hz), 7.20 - 7.32 (2H, m), 3.48 - 3.76 (10H, m), 3.16 (2H, s), 2.40 - 2.56 (8H, m), 2.38 (3H, s)

Mass spectrometric value (ESI-MS) 661 (M-1)

Compound 730 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-morpholin-4-yl-2-oxo-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 730 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.48 (1H, d, J = 9.0 Hz), 8.43 (1H, s), 7.97 (2H, d, J = 7.8 Hz), 7.76 - 7.87 (2H, m), 7.68 - 7.73 (1H, m), 7.49 - 7.57 (1H, m), 7.42 (2H, d, J = 7.8 Hz), 7.11 (2H, dd, J = 8.5 Hz, J = 8.5 Hz), 3.49 - 3.76 (10H, m), 3.16 (2H, s), 2.40 - 2.65 (8H, m)

Mass spectrometric value (ESI-MS) 665 (M-1)

Compound 731 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-morpholin-4-yl-2-oxo-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 731 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.42 - 8.52 (2H, m), 7.96 (2H, d, J = 7.8 Hz), 7.73 (1H, s), 7.46 - 7.60 (3H, m), 7.33 - 7.44 (3H, m), 7.11 (1H, ddd, J = 2.4 Hz, J = 8.3 Hz, J = 8.3 Hz), 3.48 - 3.76 (10H, m), 3.15 (2H, s), 2.40 - 2.60 (8H, m)

Mass spectrometric value (ESI-MS) 665 (M-1)

Compound 732 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-morpholin-4-yl-2-oxo-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 732 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.50 (2H, s, J = 9.0 Hz), 8.45 (1H, s), 7.95 (2H, d, J = 7.8 Hz), 7.78 (1H, s), 7.51 (1H, d, J = 8.8 Hz), 7.25 - 7.43 (3H, m), 6.90 - 7.00 (2H, m), 3.83 (3H, s), 3.48 - 3.75 (10H, m), 3.16 (2H, s), 2.40 - 2.60 (8H, m)

Mass spectrometric value (ESI-MS) 675, 677 (M-1)

Compound 733 4-[[Bis-(2-ethoxy-ethyl)-amino]-methyl]-N-[4-bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 733 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.36 - 8.46 (2H, m), 7.98 (2H, d, J = 8.0 Hz), 7.66 (2H, d, J = 10.0 Hz), 7.45 - 7.51 (4H, m), 7.17 (1H, d, J = 8.1 Hz), 3.79 (2H, s), 3.52 (4H, t, J = 6.1 Hz), 3.46 (4H, q, J = 7.0 Hz), 2.76 (4H, t, J = 6.0 Hz), 2.29 (3H, s), 2.27 (3H, s), 1.19 (6H, t, J = 7.0 Hz)

Mass spectrometric value (ESI-MS) 622, 624 (M-1)

Compound 734 4-[[Bis-(2-ethoxy-ethyl)-amino]-methyl]-N-[4-bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 734 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.45 (1H, s), 8.36 (1H, d, J = 8.8 Hz), 7.98 (2H, d, J = 7.3 Hz), 7.65 - 7.71 (3H, m), 7.45 - 7.48 (3H, m), 7.20 (2H, d, J = 7.8 Hz), 3.79 (2H, s), 3.53 (4H, t, J = 6.2 Hz), 3.46 (4H, q, J =

7.9 Hz), 2.76 (4H, t, J = 6.1 Hz), 2.35 (3H, s), 1.19 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 607, 609 (M-1)

Compound 735 4-[[Bis-(2-ethoxy-ethyl)-amino]-methyl]-N-[4-bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

5           The title compound 735 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.47 (1H, s), 8.34 (1H, d, J = 8.8 Hz), 7.98 (2H, d, J = 8.0 Hz), 7.68 (2H, d, J = 8.3 Hz), 7.54 (1H, d, J = 7.3 Hz), 7.42 - 7.50 (3H, m), 7.20 - 7.34 (2H, m), 3.78 (2H, s), 3.52 (4H, t, J = 6.1 Hz), 3.46 (4H, q, J = 7.0 Hz), 2.76 (4H, t, J = 6.2 Hz), 2.38 (3H, s), 1.19 (6H, t, J = 7.0 Hz)

Mass spectrometric value (ESI-MS) 609 (M-1)

Compound 736 4-[[Bis-(2-ethoxy-ethyl)-amino]-methyl]-N-[4-bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

15           The title compound 736 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.48 (1H, s), 8.31 (1H, d, J = 8.8 Hz), 7.98 (2H, d, J = 8.0 Hz), 7.81 (2H, dd, J = 6.5 Hz, J = 6.5 Hz), 7.64 (1H, s), 7.42 - 7.51 (3H, m), 7.10 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 3.79 (2H, s), 3.53 (4H, t, J = 6.2 Hz), 3.67 (4H, q, J = 7.0 Hz), 2.76 (4H, t, J = 6.1 Hz), 1.19 (6H, t, J = 6.9 Hz)

Mass spectrometric value (ESI-MS) 635 (M+23)

Compound 737 4-[[Bis-(2-ethoxy-ethyl)-amino]-methyl]-N-[4-bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

25           The title compound 737 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.50 (1H, s), 8.29 (1H, d, J = 8.8 Hz), 7.98 (2H, d, J = 8.0 Hz), 7.30 - 7.76 (7H, m), 7.11 (1H, ddd, J = 2.0 Hz, J = 8.3 Hz, J = 8.3 Hz), 3.80 (2H, s), 3.53 (4H, t, J = 6.2 Hz), 3.47 (4H, q, J = 6.2 Hz), 2.76 (4H, t, J = 6.2 Hz), 1.19 (6H, t, J = 6.9 Hz)

Mass spectrometric value (ESI-MS) 635 (M+23)

Compound 738 4-[[Bis-(2-ethoxy-ethyl)-amino]-methyl]-N-[4-bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

35           The title compound 738 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.55 (1H, s), 8.24 (1H, d, J = 8.0 Hz), 8.07 (1H, s), 7.95 - 8.04 (3H, m), 7.62 (1H, s), 7.57 (1H, d, J = 8.3 Hz), 7.50 (2H, d, J = 8.3 Hz), 7.43 (1H, d, J = 8.6 Hz), 3.81 (2H, s), 3.53 (4H, t, J = 6.1 Hz), 3.47 (4H, q, J = 7.0 Hz), 2.76 (4H, t, J = 6.0 Hz), 1.19 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 721 (M+23)

**Compound 739** 4-[[Bis-(2-ethoxy-ethyl)-amino]-methyl]-N-[4-bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 739 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.53 (1H, d, J = 9.0 Hz), 8.35 - 8.45 (1H, m), 7.96 (2H, dd, J = 7.6 Hz, 7.6 Hz), 7.75 (1H, d, J = 8.5 Hz), 7.67 (1H, s), 7.53 (1H, ddd, J = 1.9 Hz, J = 8.8 Hz, J = 8.8 Hz), 7.42 - 7.50 (3H, m), 5.92 (2H, d, J = 8.8 Hz), 3.83 (3H, s), 3.78 (2H, s), 3.52 (4H, t, J = 6.1 Hz), 3.46 (4H, q, J = 7.1 Hz), 2.75 (4H, t, J = 5.5 Hz), 1.19 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 625 (M-1)

**Compound 740** 4-[[Bis-(2-ethoxy-ethyl)-amino]-methyl]-N-[4-bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 740 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.47 (1H, s), 8.36 (1H, d, J = 8.8 Hz), 7.97 (2H, d, J = 8.8 Hz), 7.68 (1H, s), 7.47 (3H, d, J = 8.1 Hz), 7.37 (1H, s), 7.27 - 7.34 (2H, m), 6.92 - 6.98 (1H, m), 3.85 (3H, s), 3.78 (2H, s), 3.52 (4H, t, J = 6.1 Hz), 3.46 (4H, q, J = 7.0 Hz), 2.75 (4H, t, J = 6.0 Hz), 1.18 (6H, t, J = 7.0 Hz)

Mass spectrometric value (ESI-MS) 649 (M+23)

**Compound 741** N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperidin-1-ylmethyl]-benzamide

The title compound 741 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 8.51 (1H, d, J = 9.0 Hz), 8.41 (1H, s), 8.09 (1H, d, J = 2.2 Hz), 7.89 (2H, d, J = 8.0 Hz), 7.81 (1H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.65 (2H, d, J = 8.3 Hz), 7.49 (2H, d, J = 8.0 Hz), 7.29 (2H, d, J = 7.8 Hz), 4.29 (1H, t, J = 5.1 Hz), 3.52 (2H, bs), 3.38 - 3.46 (2H, m), 2.78 (2H, d, J = 11.0 Hz), 2.36 (3H, s), 1.92 (2H, t, J = 11.1 Hz),

1.61 (2H, d, J = 6.1 Hz), 1.30 - 1.40 (3H, m), 1.10 - 1.20 (2H, m)

Mass spectrometric value (ESI-MS) 577 (M-1)

Compound 742 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperidin-1-ylmethyl]-benzamide

5       The title compound 742 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 8.51 (1H, d, J = 8.8 Hz), 8.41 (1H, s), 8.10 (1H, d, J = 8.3 Hz), 7.88 (2H, d, J = 2.2 Hz), 7.81 (1H, dd, J = 2.2 Hz, J = 9.0 Hz), 7.59 (1H, s), 7.53 (1H, d, J = 7.6 Hz), 7.49 (3H, d, J = 7.6 Hz), 7.36 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.28 (1H, d, J = 7.6 Hz), 4.29 (1H, t, J = 5.1 Hz), 3.52 (2H, bs), 3.38 - 3.45 (2H, m), 2.77 (2H, d, J = 11.2 Hz), 2.37 (3H, s), 1.92 (2H, t, J = 10.6 Hz), 1.60 (2H, d, J = 6.1 Hz), 1.30 - 1.40 (3H, m), 1.10 - 1.21 (2H, m)

Mass spectrometric value (ESI-MS) 575 (M-1)

15   Compound 743 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperidin-1-ylmethyl]-benzamide

The title compound 743 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 8.50 (1H, d, J = 9.0 Hz), 8.45 (1H, s), 8.09 (1H, d, J = 2.4 Hz), 7.88 (2H, d, J = 8.0 Hz), 7.78 - 7.85 (3H, m), 7.49 (2H, d, J = 8.3 Hz), 7.32 (2H, dd, J = 8.8 Hz, J = 8.8 Hz), 4.29 (1H, t, J = 5.1 Hz), 3.52 (2H, bs), 3.38 - 3.45 (2H, m), 2.77 (2H, d, J = 11.2 Hz), 1.92 (2H, t, J = 10.7 Hz), 1.60 (2H, d, J = 6.1 Hz), 1.30 - 1.40 (3H, m), 1.10 - 1.20 (2H, m)

25   Mass spectrometric value (ESI-MS) 581 (M-1)

Compound 744 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperidin-1-ylmethyl]-benzamide

The title compound 744 was produced in the same manner as in Example 8.

30   <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 8.49 (1H, d, J = 8.8 Hz), 8.44 (1H, s), 8.09 (1H, d, J = 2.2 Hz), 7.88 (2H, d, J = 8.0 Hz), 7.78 - 7.84 (1H, m), 7.47 - 7.63 (5H, m), 7.25 - 7.35 (1H, m), 4.27 (1H, t, J = 5.1 Hz), 3.52 (2H, s), 3.35 - 3.46 (2H, m), 2.77 (2H, d, J = 11.2 Hz), 1.92 (2H, dd, J = 11.0 Hz, J = 11.0 Hz), 1.61 (2H, d, J = 11.7 Hz), 1.30 - 1.40 (3H, m), 1.08 - 1.22 (2H, m)

Mass spectrometric value (ESI-MS) 580 (M-1), 583 (M+1)



Compound 745 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperidin-1-ylmethyl]-benzamide

The title compound 745 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 8.49 (1H, s), 8.44 (1H, d, J = 8.8 Hz), 8.18 (1H, s), 8.05 - 8.10 (2H, m), 7.88 (2H, d, J = 8.1 Hz), 7.79 - 7.85 (2H, m), 7.49 (2H, d, J = 8.1 Hz), 4.29 (1H, bs), 3.52 (2H, bs), 3.38 - 3.45 (2H, m), 2.78 (2H, d, J = 11.2 Hz), 1.86 - 2.00 (2H, m), 1.60 (2H, d, J = 12.2 Hz), 1.30 - 1.40 (3H, m), 1.08 - 1.22 (2H, m)

Mass spectrometric value (ESI-MS) 667 (M+1)

Compound 746 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[4-(2-hydroxy-ethyl)-piperidin-1-ylmethyl]-benzamide

The title compound 746 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 8.48 (1H, d, J = 8.8 Hz), 8.42 (1H, s), 8.09 (1H, d, J = 2.0 Hz), 7.88 (2H, d, J = 8.0 Hz), 7.78 - 7.83 (1H, m), 7.49 (2H, d, J = 9.0 Hz), 7.39 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.28 - 7.33 (2H, m), 7.00 - 7.07 (1H, m), 4.29 (1H, t, J = 5.0 Hz), 3.82 (3H, s), 3.52 (2H, bs), 3.37 - 3.46 (2H, m), 2.77 (2H, d, J = 10.8 Hz), 1.86 - 1.98 (2H, m), 1.60 (2H, d, J = 12.2 Hz), 1.30 - 1.40 (3H, m), 1.08 - 1.22 (2H, m)

Mass spectrometric value (ESI-MS) 593 (M-1)

Compound 747 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-1-phenyl-ethylamino)-methyl]-benzamide

The title compound 747 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.51 (1H, s), 8.33 (1H, d, J = 8.0 Hz), 8.06 (1H, s), 7.99 (3H, d, J = 7.8 Hz), 7.65 (1H, bs), 7.58 (1H, d, J = 8.3 Hz), 7.49 (1H, d, J = 7.6 Hz), 7.26 - 7.43 (7H, m), 3.84 (1H, d, J = 14.2 Hz), 3.64 - 3.78 (6H, m), 3.57 (1H, d, J = 14.2 Hz), 2.43 - 2.60 (3H, m), 2.29 - 2.40 (3H, m)

Mass spectrometric value (ESI-MS) 742 (M-1)

Compound 748 N-[4-Bromo-2-(4-methoxy-benzylidene-

hydrazinocarbonyl)-phenyl]-4-[(2-morpholin-4-yl-1-phenyl-ethylamino)-methyl]-benzamide

The title compound 748 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.37 (1H, s), 7.99 (2H, d, J = 7.8 Hz), 7.74 (2H, d, J = 8.3 Hz), 7.69 (1H, s), 7.50 (1H, d, J = 7.8 Hz), 7.34 - 7.42 (6H, m), 7.26 - 7.32 (1H, m), 6.91 (2H, d, J = 8.8 Hz), 3.80 - 3.85 (1H, m), 3.82 (3H, s), 3.60 - 3.76 (5H, m), 3.50 - 3.57 (1H, m), 2.40 - 2.60 (3H, m), 2.28 - 2.34 (3H, m)

Mass spectrometric value (ESI-MS) 668 (M-1)

Compound 749 6-Bromo-2-{4-[(1,2-diethyl-pyrazolidin-4-ylamino)-methyl]-phenyl}-3-[(3,4-dimethyl-benzylidene)-amino]-3H-quinazolin-4-one

The title compound 749 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.89 (1H, d, J = 8.8 Hz), 8.73 (1H, s), 8.57 (1H, s), 8.03 (2H, d, J = 8.0 Hz), 7.40 - 7.82 (5H, m), 7.10 - 7.25 (1H, m), 3.91 (2H, s), 3.56 - 3.70 (1H, m), 3.15 - 3.27 (2H, m), 2.70 - 2.85 (6H, m), 2.34 (6H, s), 1.11 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 589 (M+1)

Compound 750 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(1,2-diethyl-pyrazolidin-4-ylamino)-methyl]-benzamide

The title compound 750 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.42 (1H, d, J = 9.0 Hz), 8.38 (1H, s), 7.99 (2H, d, J = 8.1 Hz), 7.70 (1H, s), 7.62 (1H, s), 7.40 - 7.52 (4H, m), 7.15 (1H, d, J = 7.8 Hz), 3.83 (2H, s), 3.56 (1H, tt, J = 6.5 Hz, J = 6.5 Hz), 3.12 - 3.20 (2H, m), 2.65 - 2.74 (6H, m), 2.28 (3H, s), 2.26 (3H, s), 1.09 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 605 (M-1)

Compound 751 6-Bromo-2-{4-[(1,2-diethyl-pyrazolidin-4-ylamino)-methyl]-phenyl}-3-[(3-fluoro-benzylidene)-amino]-3H-quinazolin-4-one

The title compound 751 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.90 (1H, d, J = 8.8 Hz), 8.74 (1H, s), 8.59

(1H, s), 8.02 (2H, d, J = 8.3 Hz), 7.42 - 7.65 (6H, m), 7.21 (1H, ddd, J = 1.7 Hz, J = 8.3 Hz, J = 8.3 Hz), 3.89 (2H, s), 3.62 (1H, tt, J = 6.4 Hz, J = 6.4 Hz), 3.15 - 3.23 (2H, m), 2.65 - 2.80 (6H, m), 1.10 (6H, t, J = 7.2 Hz)

Compound 752 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(1,2-diethyl-pyrazolidin-4-ylamino)-methyl]-benzamide

The title compound 752 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.46 (1H, s), 8.34 (1H, d, J = 8.8 Hz), 7.99 (2H, d, J = 7.8 Hz), 7.66 (1H, s), 7.34 - 7.62 (6H, m), 7.11 (1H, ddd, J = 2.0 Hz, J = 8.3 Hz, J = 8.3 Hz), 3.85 (2H, s), 3.57 (1H, tt, J = 6.5 Hz, J = 6.5 Hz), 3.12 - 3.20 (2H, m), 2.64 - 2.74 (6H, m), 1.10 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 595 (M-1)

Compound 753 6-Bromo-3-[(4-chloro-3-trifluoromethyl-benzylidene)-amino]-2-{4-[(1,2-diethyl-pyrazolidin-4-ylamino)-methyl]-phenyl}-3H-quinazolin-4-one

The title compound 753 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.88 (1H, d, J = 8.8 Hz), 8.75 (1H, s), 8.58 (1H, s), 7.92 - 8.05 (2H, m), 7.45 - 7.70 (6H, m), 3.89 (2H, s), 3.54 - 3.65 (1H, m), 3.12 - 3.22 (2H, m), 2.65 - 2.76 (6H, m), 1.10 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 663 (M-1)

Compound 754 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(1,2-diethyl-pyrazolidin-4-ylamino)-methyl]-benzamide

The title compound 754 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.51 (1H, s), 8.31 (1H, d, J = 8.1 Hz), 8.06 (1H, s), 7.99 (3H, d, J = 7.8 Hz), 7.65 (1H, s), 7.58 (1H, d, J = 8.3 Hz), 7.47 (3H, d, J = 8.3 Hz), 3.86 (2H, s), 3.58 (1H, tt, J = 6.3 Hz, J = 6.3 Hz), 3.12 - 3.20 (2H, m), 2.65 - 2.75 (6H, m), 1.10 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 681 (M+1)

Compound 755 6-Bromo-2-{4-[(1,2-diethyl-pyrazolidin-4-ylamino)-methyl]-phenyl}-3-[(4-methoxy-benzylidene)-amino]-3H-quinazolin-4-one

The title compound 755 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.89 (1H, d, J = 8.5 Hz), 8.71 (1H, s), 8.58

(1H, s), 8.03 (2H, d, J = 8.3 Hz), 7.79 (2H, d, J = 8.8 Hz), 7.60 (1H, d, J = 2.2 Hz), 7.57 (1H, s), 7.49 (2H, d, J = 8.3 Hz), 7.00 (2H, d, J = 8.8 Hz), 3.89 (5H, s), 3.62 (1H, tt, J = 6.2 Hz, J = 6.2 Hz), 3.15 - 3.25 (2H, m), 2.65 - 2.80 (6H, m), 1.11 (6H, t, J = 7.2 Hz)

- 5 Compound 756 N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(1,2-diethyl-pyrazolidin-4-ylamino)-methyl]-benzamide

The title compound 756 was produced in the same manner as in Example 8.

- 10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.46 (1H, d, J = 8.8 Hz), 8.37 (1H, s), 7.98 (2H, d, J = 7.8 Hz), 7.67 - 7.76 (3H, m), 7.49 (1H, d, J = 7.6 Hz), 7.42 (2H, d, J = 8.3 Hz), 6.91 (2H, d, J = 8.8 Hz), 3.83 (2H, s), 3.82 (3H, s), 3.57 (1H, tt, J = 6.3 Hz, J = 6.3 Hz), 3.12 - 3.20 (2H, m), 2.65 - 2.75 (6H, m), 1.10 (6H, t, J = 7.2 Hz)

- 15 Mass spectrometric value (ESI-MS) 607 (M-1)

Compound 757 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[3-(methyl-phenyl-amino)-propylamino]-methyl]-benzamide

- 20 The title compound 757 was produced in the same manner as in Example 8.

- <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.35 - 8.45 (2H, m), 7.96 (2H, d, J = 7.8 Hz), 7.71 (1H, s), 7.60 (1H, s), 7.43 - 7.48 (2H, m), 7.40 (2H, d, J = 8.3 Hz), 7.17 - 7.23 (2H, m), 7.14 (1H, d, J = 7.8 Hz), 6.65 - 6.73 (3H, m), 3.83 (2H, s), 3.38 (2H, t, J = 7.2 Hz), 2.89 (3H, s), 2.68 (2H, t, J = 7.0 Hz), 2.26 (3H, s), 2.25 (3H, s), 1.81 (2H, tt, J = 7.1 Hz, J = 7.1 Hz)

- 25 Mass spectrometric value (ESI-MS) 626 (M-1), 628 (M+1)

Compound 758 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[3-(methyl-phenyl-amino)-propylamino]-methyl]-benzamide

- 30 The title compound 758 was produced in the same manner as in Example 8.

- <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.37 - 8.44 (2H, m), 7.92 - 7.79 (2H, m), 7.64 - 7.72 (3H, m), 7.45 (1H, d, J = 8.0 Hz), 7.39 (2H, d, J = 8.0 Hz), 7.16 - 7.23 (4H, m), 6.65 - 6.74 (3H, m), 3.82 (2H, s), 3.39 (2H, t, J = 7.2 Hz), 2.89 (3H, s), 2.67 (2H, t, J = 6.8 Hz), 2.34 (3H, s), 1.80 (2H, tt, J = 7.0 Hz, J = 7.0 Hz)

- 35 Mass spectrometric value (ESI-MS) 612 (M-1), 614 (M+1)

Compound 759 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[3-(methyl-phenyl-amino)-propylamino]-methyl]-benzamide

The title compound 759 was produced in the same manner as in Example 8.

5 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.37 - 8.46 (2H, m), 7.98 (2H, d, J = 7.8 Hz), 7.81 (2H, bs), 7.66 (1H, s), 7.50 (1H, d, J = 8.6 Hz), 7.43 (2H, d, J = 8.1 Hz), 7.19 - 7.24 (2H, m), 7.11 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 6.66 - 6.75 (3H, m), 3.84 (2H, s), 3.41 (2H, t, J = 7.2 Hz), 2.92 (3H, s), 2.69 (2H, t, J = 7.0 Hz), 1.81 (2H, tt, J = 7.0 Hz, J = 7.0 Hz)

10 Mass spectrometric value (ESI-MS) 616 (M-1), 618 (M+1)

Compound 760 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[3-(methyl-phenyl-amino)-propylamino]-methyl]-benzamide

The title compound 760 was produced in the same manner as in Example 8.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.45 (1H, bs), 8.34 (1H, d, J = 8.5 Hz), 7.98 (2H, d, J = 7.8 Hz), 7.34 - 7.67 (7H, m), 7.18 - 7.25 (2H, m), 7.11 (1H, ddd, J = 1.7 Hz, J = 7.6 Hz, J = 7.6 Hz), 6.72 (2H, d, J = 7.8 Hz), 6.68 (1H, dd, J = 7.2 Hz, J = 7.2 Hz), 3.84 (2H, s), 3.41 (2H, t, J = 7.2 Hz), 2.91 (3H, s), 2.68 (2H, t, J = 7.0 Hz), 1.80 (2H, tt, J = 7.0 Hz, J = 7.0 Hz)

20 Hz)

Mass spectrometric value (ESI-MS) 614 (M-1), 618 (M+1)

Compound 761 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[3-(methyl-phenyl-amino)-propylamino]-methyl]-benzamide

25 The title compound 761 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.50 (1H, s), 8.27 (1H, d, J = 8.0 Hz), 8.06 (1H, s), 7.99 (2H, d, J = 7.6 Hz), 7.63 (1H, bs), 7.56 (1H, d, J = 8.3 Hz), 7.45 (2H, d, J = 8.1 Hz), 7.19 - 7.25 (2H, m), 6.65 - 6.75 (5H, m), 3.85 (2H, s), 3.41 (2H, t, J = 7.1 Hz), 2.92 (3H, s), 2.69 (2H, t, J = 7.0 Hz), 1.81 (2H, tt, J = 7.0 Hz, J = 7.0 Hz)

30

Mass spectrometric value (ESI-MS) 698, 700 (M-1), 702 (M+1)

Compound 762 N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[3-(methyl-phenyl-amino)-propylamino]-methyl]-benzamide

35

The title compound 762 was produced in the same manner as in

## Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.44 (1H, d, J = 8.8 Hz), 8.37 (1H, s), 7.97 (2H, d, J = 8.0 Hz), 7.65 - 7.77 (3H, m), 7.48 (1H, d, J = 8.8 Hz), 7.40 (2H, d, J = 8.0 Hz), 7.19 - 7.25 (3H, m), 6.90 (2H, d, J = 8.8 Hz), 6.71 (2H, d, J = 8.0 Hz), 6.68 (1H, dd, J = 7.2 Hz, J = 7.2 Hz), 3.81 (2H, s), 3.81 (3H, s), 3.40 (2H, t, J = 7.1 Hz), 2.91 (3H, s), 2.67 (2H, t, J = 7.0 Hz), 1.79 (2H, tt, J = 7.0 Hz, J = 7.0 Hz)

Mass spectrometric value (ESI-MS) 626 (M-1), 630 (M+1)

Compound 763 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[[3-(methyl-phenyl-amino)-propylamino]-methyl]-benzamide

The title compound 763 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.44 (1H, d, J = 9.0 Hz), 8.40 (1H, s), 7.97 (2H, d, J = 7.8 Hz), 7.71 (1H, s), 7.18 - 7.54 (8H, m), 6.94 - 7.00 (1H, m), 6.71 (2H, d, J = 8.0 Hz), 6.68 (1H, dd, J = 7.2 Hz, J = 7.2 Hz), 3.84 (3H, s), 3.82 (2H, s), 3.40 (2H, t, J = 7.1 Hz), 2.91 (3H, s), 2.67 (2H, t, J = 6.8 Hz), 1.80 (2H, tt, J = 7.0 Hz, J = 7.0 Hz),

Mass spectrometric value (ESI-MS) 626 (M-1), 630 (M+1)

Compound 764 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-ethylsulfanyl-ethylamino)-methyl]-benzamide

The title compound 764 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.37 - 8.45 (2H, m), 7.98 (2H, d, J = 7.8 Hz), 7.72 (1H, s), 7.60 (1H, s), 7.42 - 7.50 (4H, m), 7.07 - 7.20 (2H, m), 3.88 (2H, s), 2.83 (2H, t, J = 6.2 Hz), 2.73 (2H, t, J = 6.6 Hz), 2.51 (2H, q, J = 7.3 Hz), 2.26 (3H, s), 2.25 (3H, s), 1.24 (3H, t, J = 7.4 Hz)

Mass spectrometric value (ESI-MS) 565 (M-1)

Compound 765 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-ethylsulfanyl-ethylamino)-methyl]-benzamide

The title compound 765 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.39 - 8.45 (2H, m), 7.84 - 8.02 (2H, m), 7.68 (2H, d, J = 8.5 Hz), 7.42 - 7.50 (3H, m), 7.15 - 7.25 (3H, m), 3.88 (2H, s), 2.83 (2H, t, J = 6.3 Hz), 2.73 (2H, t, J = 6.3 Hz), 2.52 (2H, q, J =

7.4 Hz), 2.36 (3H, s), 1.25 (3H, t, J = 7.4 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 766 N-[4-Bromo-2-(3-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-ethylsulfanyl-ethylamino)-methyl]-benzamide

5 The title compound 766 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.44 (1H, s), 8.37 (1H, d, J = 8.8 Hz), 7.99 (2H, d, J = 8.1 Hz), 7.68 (2H, s), 7.54 (1H, d, J = 7.3 Hz), 7.42 - 7.50 (3H, m), 7.29 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.22 (1H, d, J = 7.6 Hz), 3.87 (2H, s), 2.81 (2H, t, J = 6.5 Hz), 2.72 (2H, t, J = 6.2 Hz), 2.53 (2H, q, J = 7.4 Hz), 2.37 (3H, s), 1.26 (3H, t, J = 7.3 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 767 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-ethylsulfanyl-ethylamino)-methyl]-benzamide

15 The title compound 767 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.46 (1H, s), 8.33 (1H, d, J = 8.3 Hz), 7.98 (2H, d, J = 7.8 Hz), 7.80 (2H, bs), 7.65 (1H, s), 7.45 (3H, d, J = 8.0 Hz), 7.10 (2H, dd, J = 8.5 Hz, J = 8.5 Hz), 3.87 (2H, s), 2.82 (2H, t, J = 6.3 Hz), 2.72 (2H, t, J = 6.5 Hz), 2.53 (2H, q, J = 7.4 Hz), 1.26 (3H, t, J = 7.3 Hz)

Mass spectrometric value (ESI-MS) 557 (M-1)

Compound 768 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-ethylsulfanyl-ethylamino)-methyl]-benzamide

25 The title compound 768 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.46 (1H, bs), 8.34 (1H, d, J = 7.8 Hz), 7.99 (2H, d, J = 7.6 Hz), 7.66 (1H, bs), 7.34 - 7.60 (6H, m), 7.11 (1H, ddd, J = 2.4 Hz, J = 8.3 Hz, J = 8.3 Hz), 3.89 (2H, s), 2.83 (2H, t, J = 6.4 Hz), 2.73 (2H, t, J = 6.3 Hz), 2.54 (2H, q, J = 7.4 Hz), 1.26 (3H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 555 (M-1)

Compound 769 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-ethylsulfanyl-ethylamino)-methyl]-benzamide

35 The title compound 769 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.53 (1H, s), 8.27 (1H, d, J = 6.8 Hz), 8.06 (1H, s), 7.99 (3H, d, J = 7.8 Hz), 7.63 (1H, bs), 7.57 (1H, d, J = 8.3 Hz), 7.40 - 7.50 (3H, m), 3.90 (2H, s), 2.84 (2H, t, J = 6.2 Hz), 2.73 (2H, t, J = 6.5 Hz), 2.54 (2H, q, J = 7.4 Hz), 1.27 (3H, t, J = 7.5 Hz)

5 Mass spectrometric value (ESI-MS) 643 (M-1)

Compound 770 N-[4-Bromo-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-ethylsulfanyl-ethylamino)-methyl]-benzamide

The title compound 770 was produced in the same manner as in

10 Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.37 - 8.45 (2H, m), 7.98 (2H, d, J = 7.8 Hz), 7.68 - 7.74 (3H, m), 7.47 (1H, d, J = 8.3 Hz), 7.42 (2H, d, J = 8.0 Hz), 6.90 (2H, d, J = 8.8 Hz), 3.86 (2H, s), 3.81 (3H, s), 2.81 (2H, t, J = 6.5 Hz), 2.72 (2H, t, J = 6.2 Hz), 2.52 (2H, q, J = 7.4 Hz), 1.25 (3H, t, J = 7.5 Hz)

15

Mass spectrometric value (ESI-MS) 569 (M-1)

Compound 771 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-[(2-ethylsulfanyl-ethylamino)-methyl]-benzamide

20 The title compound 771 was produced in the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.45 (1H, s), 8.39 (1H, d, J = 9.0 Hz), 7.97 (2H, d, J = 7.8 Hz), 7.73 (1H, bs), 7.40 - 7.50 (3H, m), 7.34 (1H, s), 7.26 - 7.30 (2H, m), 6.90 - 7.00 (1H, m), 3.85 (2H, s), 3.83 (3H, s), 2.81 (2H, t, J = 6.4 Hz), 2.71 (2H, t, J = 6.2 Hz), 2.53 (2H, q, J = 7.4 Hz), 1.25 (3H, t, J = 7.4 Hz)

25

Mass spectrometric value (ESI-MS) 567 (M-1)

Compound 772 N-[4-Bromo-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-pyridin-2-yl-piperazin-1-ylmethyl)-benzamide

30

The title compound 772 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.29 (3H, s), 2.30 (3H, s), 2.59 (4H, bs), 3.58 (4H, bs), 3.64 (2H, bs), 6.62 (2H, m), 7.18 (1H, d, J = 7.8 Hz), 7.59 (7H, m), 8.00 (2H, d, J = 8.1 Hz), 8.18 (1H, m), 8.31 (1H, s), 8.56 (1H, m), 10.08 (1H, bs), 11.68 (1H, s)

35



Mass spectrometric value (ESI-MS) 623 (M-1)

Compound 773 N-[4-Bromo-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-pyridin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 773 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.39 (3H, s), 2.59 (4H, bs), 3.58 (4H, bs), 3.64 (2H, bs), 6.63 (2H, m), 7.23 (2H, d, J = 7.8 Hz), 7.59 (7H, m), 8.00 (2H, d, J = 7.6 Hz), 8.18 (1H, m), 8.32 (1H, s), 8.60 (1H, d, J = 8.8 Hz), 9.90 (1H, bs), 11.70 (1H, bs)

Mass spectrometric value (ESI-MS) 611 (M-1)

Compound 774 N-[4-Bromo-2-(4-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-pyridin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 774 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.59 (4H, bs), 3.59 (4H, bs), 3.65 (2H, bs), 6.63 (2H, m), 7.12 (2H, m), 7.64 (7H, m), 8.00 (2H, d, J = 7.8 Hz), 8.18 (1H, m), 8.37 (1H, bs), 8.60 (1H, m), 10.20 (1H, bs), 11.70 (1H, bs)

Mass spectrometric value (ESI-MS) 613 (M-1)

Compound 775 N-[4-Bromo-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-pyridin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 775 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.59 (4H, bs), 3.58 (4H, bs), 3.65 (2H, bs), 6.63 (2H, m), 7.14 (1H, m), 7.50 (8H, m), 8.00 (2H, d, J = 7.8 Hz), 8.18 (1H, m), 8.40 (1H, s), 8.55 (1H, bs), 10.30 (1H, bs), 11.60 (1H, bs)

Mass spectrometric value (ESI-MS) 613 (M-1)

Compound 776 N-[4-Bromo-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-pyridin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 776 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.60 (4H, bs), 3.58 (4H, bs), 3.65 (2H, bs), 6.63 (2H, m), 7.54 (6H, m), 8.02 (4H, m), 8.18 (1H, m), 8.47 (2H, bs), 10.45 (1H, bs), 11.50 (1H, bs)

Mass spectrometric value (ESI-MS) 697 (M-1)

Compound 777 N-[4-Bromo-2-(4-methoxy-benzylidene-

hydrazinocarbonyl)-phenyl]-4-(4-pyridin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 777 was produced in substantially the same manner as in Example 8.

5 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.59 (4H, bs), 3.61 (6H, m), 3.84 (3H, s), 6.62 (2H, m), 6.93 (2H, d, J = 8.8 Hz), 7.49 (4H, m), 7.72 (3H, m), 7.80 (2H, d, J = 7.6 Hz), 8.18 (1H, m), 8.31 (1H, bs), 8.58 (1H, m), 9.99 (1H, bs), 11.69 (1H, bs)

Mass spectrometric value (ESI-MS) 625 (M-1)

10 Compound 778 N-[4-Bromo-2-(3-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-4-(4-pyridin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 778 was produced in substantially the same manner as in Example 8.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.59 (4H, bs), 3.59 (6H, m), 3.86 (3H, s), 6.63 (2H, m), 6.98 (1H, m), 7.32 (3H, m), 7.54 (4H, m), 7.72 (1H, m), 8.00 (2H, d, J = 7.3 Hz), 8.18 (1H, m), 8.34 (1H, bs), 8.60 (1H, d, J = 8.8 Hz)

Mass spectrometric value (ESI-MS) 625 (M-1)

20 Compound 779 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 779 was produced in substantially the same manner as in Example 8.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.10 (6H, m), 2.51 (4H, m), 3.88 (4H, m), 7.03 (1H, d, J = 6.1 Hz), 7.53 (2H, m), 7.68 (2H, d, J = 8.0 Hz), 7.92 (1H, d, J = 7.8 Hz), 8.06 (2H, m), 8.32 (1H, bs), 8.39 (1H, s)

Mass spectrometric value (ESI-MS) 595 (M-1)

30 Compound 780 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 780 was produced in substantially the same manner as in Example 8.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.10 (6H, m), 2.51 (4H, m), 3.88 (7H, m), 7.00 (3H, m), 7.53 (2H, m), 7.68 (1H, m), 7.80 (2H, d, J = 8.3 Hz), 7.93 (1H, d, J = 7.1 Hz), 8.06 (1H, m), 8.31 (1H, s)

Mass spectrometric value (ESI-MS) 523 (M-1)

Compound 781 2-{3-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-ylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 781 was produced in substantially the same manner as in Example 8.

5 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.30 (6H, m), 2.47 (3H, s), 2.79 (2H, m), 2.98 (2H, m), 3.85 (2H, bs), 6.71 (1H, m), 7.18 (1H, d, J = 7.6 Hz), 7.20 - 8.00 (6H, m), 8.23 (1H, bs)

Mass spectrometric value (ESI-MS) 544 (M-1)

10 Compound 782 2-{3-[4-Methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-ylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 782 was produced in substantially the same manner as in Example 8.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.39 (3H, s), 2.47 (3H, s), 2.79 (2H, m), 2.99 (2H, m), 3.84 (2H, s), 6.72 (1H, m), 7.20 - 7.94 (8H, m), 8.26 (1H, bs)

Mass spectrometric value (ESI-MS) 530 (M-1)

20 Compound 783 2-{3-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-ylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 783 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.47 (3H, bs), 2.80 (2H, m), 2.99 (2H, m), 3.84 (2H, bs), 6.72 (1H, m), 7.14 (2H, m), 7.49 (1H, m), 7.61 (1H, m), 7.92 (4H, m), 8.29 (1H, bs)

25 Mass spectrometric value (ESI-MS) 534 (M-1)

Compound 784 2-{3-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-ylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

30 The title compound 784 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.47 (3H, bs), 2.79 (2H, m), 2.98 (2H, m), 3.84 (2H, bs), 6.70 (1H, m), 7.40 - 8.02 (6H, m), 8.31 (2H, m)

Mass spectrometric value (ESI-MS) 618 (M-1)

35 Compound 785 2-{3-[3-(4-Methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-ylcarbamoyl]-benzylsulfanyl}-ethanesulfonic acid

The title compound 785 was produced in substantially the same

manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.47 (3H, bs), 2.81 (2H, m), 2.98 (2H, m), 3.84 (5H, m), 6.71 (1H, m), 6.97 (2H, m), 7.44 - 7.98 (6H, m), 8.24 (1H, bs)

5 Mass spectrometric value (ESI-MS) 546 (M-1)

Compound 786 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

10 The title compound 786 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.30 (6H, m), 2.50 (3H, s), 2.69 (4H, t, J = 5.9 Hz), 3.63 (4H, t, J = 5.5 Hz), 3.81 (2H, s), 6.69 (1H, m), 7.19 (1H, m), 7.51 (2H, m), 7.65 (2H, m), 7.87 (1H, m), 7.98 (1H, s), 8.22 (1H, s)

Mass spectrometric value (ESI-MS) 507 (M-1)

15 Compound 787 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 787 was produced in substantially the same manner as in Example 8.

20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.38 (3H, s), 2.57 (3H, s), 2.78 (4H, t, J = 5.1 Hz), 3.74 (4H, t, J = 5.1 Hz), 3.84 (2H, s), 6.50 (1H, s), 7.19 (2H, d, J = 8.0 Hz), 7.45 (2H, m), 7.70 (2H, d, J = 7.8 Hz), 8.00 (1H, m), 8.08 (1H, s), 8.25 (1H, s), 9.16 (1H, s)

Mass spectrometric value (ESI-MS) 493 (M-1)

25 Compound 788 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[3-(4-fluorobenzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 788 was produced in substantially the same manner as in Example 8.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.54 (3H, s), 2.79 (4H, t, J = 5.2 Hz), 3.74 (4H, t, J = 5.1 Hz), 3.83 (2H, s), 6.48 (1H, s), 7.04 (2H, m), 7.45 (2H, m), 7.80 (2H, m), 8.00 (1H, m), 8.13 (1H, s), 8.26 (1H, s), 9.28 (1H, s), 13.16 (1H, bs)

Mass spectrometric value (ESI-MS) 497 (M-1)

Compound 789 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[3-(3-fluorobenzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

35 The title compound 789 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.56 (3H, s), 2.79 (4H, t, J = 5.0 Hz), 3.75 (4H, m), 3.84 (2H, s), 6.47 (1H, s), 7.04 (1H, m), 7.17 - 7.70 (5H, m), 8.01 (1H, m), 8.16 (1H, s), 8.29 (1H, s), 9.35 (1H, s), 13.20 (1H, bs)

Mass spectrometric value (ESI-MS) 497 (M-1)

- 5 Compound 790 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 790 was produced in substantially the same manner as in Example 8.

- 10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.50 (3H, s), 2.72 (4H, t, J = 5.8 Hz), 3.65 (4H, t, J = 5.8 Hz), 3.84 (2H, s), 6.71 (1H, d, J = 1.0 Hz), 7.51 (1H, m), 7.67 (2H, m), 7.85 (1H, m), 8.00 (2H, m), 8.33 (2H, m)

Mass spectrometric value (ESI-MS) 581 (M-1)

- 15 Compound 791 3-[[Bis-(2-hydroxy-ethyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 791 was produced in substantially the same manner as in Example 8.

- 20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.55 (3H, s), 2.79 (4H, t, J = 5.2 Hz), 3.74 (4H, m), 3.85 (5H, m), 6.51 (1H, s), 6.92 (2H, m), 7.45 (2H, m), 7.67 (1H, m), 7.77 (1H, m), 8.01 (1H, m), 8.05 (1H, s), 8.26 (1H, s), 9.09 (1H, s), 13.27 (1H, bs)

Mass spectrometric value (ESI-MS) 509 (M-1)

- 25 Compound 792 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-benzamide

The title compound 792 was produced in substantially the same manner as in Example 8.

- 30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.13 (3H, d, J = 2.2 Hz), 1.15 (3H, d, J = 2.2 Hz), 2.26 (6H, m), 2.51 (2H, d, J = 6.1 Hz), 2.63 (2H, m), 3.65 - 4.05 (4H, m), 7.12 (1H, m), 7.30 (1H, m), 7.40 - 7.51 (4H, m), 7.67 (1H, m), 7.86 (2H, m), 8.03 (1H, m), 8.18 (1H, s), 8.25 (1H, d, J = 5.6 Hz), 9.44 (1H, s), 13.13 (1H, m)

Mass spectrometric value (ESI-MS) 571 (M-1)

- 35 Compound 793 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-

benzamide

The title compound 793 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.13 (6H, m), 2.39 (3H, s), 2.51 (2H, d, J = 6.1 Hz), 2.64 (2H, m), 3.65 - 4.05 (4H, m), 7.19 (2H, d, J = 8.0 Hz), 7.32 (1H, m), 7.42 - 7.50 (3H, m), 7.75 (2H, m), 7.86 (2H, m), 8.04 (1H, m), 8.19 (1H, m), 8.28 (1H, d, J = 6.1 Hz), 9.40 (1H, s), 13.14 (1H, bs)

Mass spectrometric value (ESI-MS) 557 (M-1)

Compound 794 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-fluorobenzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-benzamide

The title compound 794 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.13 (6H, m), 2.51 (2H, d, J = 6.1 Hz), 2.65 (2H, m), 3.63 - 4.08 (4H, m), 7.07 (2H, m), 7.29 (1H, m), 7.36 - 7.50 (3H, m), 7.85 (4H, m), 8.03 (1H, m), 8.26 (2H, m), 9.50 (1H, d, J = 4.4 Hz), 13.13 (1H, bs)

Mass spectrometric value (ESI-MS) 561 (M-1)

Compound 795 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3-fluorobenzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-benzamide

The title compound 795 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.15 (6H, m), 2.53 (2H, m), 2.67 (2H, m), 3.61 - 4.14 (4H, m), 7.01 (1H, m), 7.11 - 7.30 (3H, m), 7.45 (3H, m), 7.62 - 7.90 (3H, m), 7.99 (1H, m), 8.23 (1H, d, J = 12.7 Hz), 8.35 (1H, d, J = 6.1 Hz), 9.82 (1H, d, J = 13.9 Hz), 13.10 (1H, s)

Mass spectrometric value (ESI-MS) 561 (M-1)

Compound 796 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-benzamide

The title compound 796 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.14 (3H, d, J = 6.1 Hz), 1.17 (3H, d, J = 6.1 Hz), 2.50 - 2.80 (4H, m), 3.63 - 4.16 (4H, m), 7.06 (2H, m), 7.30 (1H, m), 7.44 (2H, m), 7.70 (1H, m), 7.80 - 8.07 (4H, m), 8.16 (1H, s), 8.53 (1H, s), 10.08 (1H, d, J = 6.1 Hz), 13.10 (1H, d, J = 1.0 Hz)

Mass spectrometric value (ESI-MS) 645 (M-1)

Compound 797 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-benzamide

The title compound 797 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.13 (6H, m), 2.51 (2H, d, J = 6.1 Hz), 2.63 (2H, m), 3.64 - 4.06 (7H, m), 6.90 (2H, d, J = 8.8 Hz), 7.31 (1H, m), 7.48 (3H, m), 7.83 (4H, m), 8.03 (1H, m), 8.18 (1H, m), 8.28 (1H, d, J = 6.4 Hz), 9.38 (1H, s), 13.16 (1H, bs)

Mass spectrometric value (ESI-MS) 573 (M-1)

Compound 798 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 798 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.35 (2H, m), 1.51 (1H, m), 1.72 (2H, m), 2.05 (2H, m), 2.29 (3H, s), 2.30 (3H, s), 2.93 (2H, m), 3.50 (2H, d, J = 6.1 Hz), 3.62 (2H, s), 7.18 (1H, d, J = 7.8 Hz), 7.32 (1H, m), 7.47 (3H, m), 7.61 (1H, d, J = 7.6 Hz), 7.66 (1H, s), 7.87 (2H, m), 7.97 (1H, m), 8.04 (1H, m), 8.17 (1H, m), 9.34 (1H, bs), 12.85 (1H, bs)

Mass spectrometric value (ESI-MS) 553 (M-1)

Compound 799 3-(4-Hydroxymethyl-piperidin-1-ylmethyl)-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-benzamide

The title compound 799 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.42 (2H, m), 1.52 (1H, m), 1.73 (2H, m), 2.12 (2H, m), 2.38 (3H, s), 3.00 (2H, m), 3.50 (2H, d, J = 6.1 Hz), 3.70 (2H, s), 7.23 (2H, m), 7.32 (1H, m), 7.45 (2H, m), 7.64 (1H, d, J = 7.8 Hz), 7.71 (2H, m), 8.86 (2H, m), 7.97 (1H, d, J = 8.0 Hz), 8.03 (1H, m), 8.21 (1H, s), 9.40 (1H, bs), 12.84 (1H, bs)

Mass spectrometric value (ESI-MS) 539 (M-1)

Compound 800 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 800 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.40 - 1.60 (3H, m), 1.73 (2H, m), 2.17 (2H, m), 3.05 (2H, m), 3.50 (2H, d, J = 5.9 Hz), 3.75 (2H, s), 7.04 (1H, m), 7.11 (2H, m), 7.28 (1H, m), 7.37 - 7.50 (2H, m), 7.64 (1H, d, J = 7.6 Hz), 7.83 (2H, m), 7.94 (1H, m), 8.01 (1H, s), 8.07 (1H, m), 8.26 (1H, s), 9.50 (1H, bs), 12.73 (1H, bs)

Mass spectrometric value (ESI-MS) 543 (M-1)

Compound 801 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 801 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.40 (2H, m), 1.53 (1H, m), 1.72 (2H, m), 2.09 (2H, m), 2.96 (2H, m), 3.50 (2H, d, J = 6.1 Hz), 3.66 (2H, s), 7.13 (1H, m), 7.31 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.35 - 7.66 (6H, m), 7.85 (2H, m), 7.94 (1H, d, J = 7.8 Hz), 8.02 (1H, s), 8.23 (1H, s), 9.52 (1H, bs), 12.73 (1H, bs)

Mass spectrometric value (ESI-MS) 543 (M-1)

Compound 802 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 802 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.40 (2H, m), 1.15 (1H, m), 1.72 (2H, m), 2.09 (2H, m), 2.95 (2H, m), 3.50 (2H, d, J = 6.1 Hz), 3.65 (2H, s), 7.27 (1H, m), 7.40 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.47 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.55 (1H, d, J = 8.0 Hz), 7.60 (1H, d, J = 7.6 Hz), 7.82 (2H, m), 7.90 (1H, m), 7.95 (1H, d, J = 8.0 Hz), 8.00 (1H, s), 8.06 (1H, s), 8.35 (1H, s), 9.69 (1H, bs), 12.63 (1H, bs)

Mass spectrometric value (ESI-MS) 627 (M-1)

Compound 803 3-(4-Hydroxymethyl-piperidin-1-ylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-benzo[b]thiophen-2-yl]-benzamide

The title compound 803 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.39 (2H, m), 1.52 (1H, m), 1.71 (2H, m), 2.07 (2H, m), 2.95 (2H, m), 3.49 (2H, d, J = 6.1 Hz), 3.64 (2H, s), 3.83



(3H, s), 6.93 (2H, d, J = 8.8 Hz), 7.29 (1H, m), 7.38 - 7.48 (2H, m), 7.60 (1H, d, J = 7.6 Hz), 7.75 (1H, m), 7.84 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 7.95 (2H, m), 8.01 (1H, s), 8.20 (1H, s), 9.42 (1H, bs), 12.81 (1H, bs)

Mass spectrometric value (ESI-MS) 555 (M-1)

5 Example A

Compound 804 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

Ethyl-2-aminocyclopenta(B)thiophene-3-carboxylate (compound  
10 A) (1.0 g) was dissolved in anhydrous methylene chloride (20.0 ml). Subsequently, pyridine (760  $\mu$ l) and 3-(chloromethyl)benzoyl chloride (compound B) (880  $\mu$ l) were added to the solution at 0°C, and the mixture was stirred at 0°C for one hr. After the completion of the reaction, distilled water was added thereto, and the mixture was  
15 subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give 2-(3-chloromethyl-benzoylamino)-5,6-dihydro-4H-cyclopenta[b]thiophene-3-carboxylic acid ethyl ester as a useful intermediate (800 mg, crude yield 100%).

20 2-(3-Chloromethyl-benzoylamino)-5,6-dihydro-4H-cyclopenta[b]-thiophene-3-carboxylic acid ethyl ester (800 mg) produced by the above reaction was dissolved in anhydrous methylene chloride (10.0 ml). Triethylamine (420  $\mu$ l) and diisopropanolamine (compound B') (585 mg) were added to the solution at room temperature, and the mixture was  
25 stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column  
30 chromatography eluted with a chloroform-methanol system to give 2-(3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-5,6-dihydro-4H-cyclopenta[b]thiophene-3-carboxylic acid ethyl ester as a useful intermediate (616 mg, yield 61%).

2-(3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-5,6-  
35 dihydro-4H-cyclopenta[b]thiophene-3-carboxylic acid ethyl ester (616 mg) produced by the above reaction was dissolved in ethanol (10.0 ml).

Hydrazine monohydrate (700  $\mu$ l) was added to the solution, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-N-(3-hydrazinocarbonyl-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-benzamide as a hydrazine compound (372 mg, yield 60%).

3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-(3-hydrazinocarbonyl-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)benzamide (60.0 mg) produced by the above reaction was dissolved in anhydrous toluene (1.0 ml). 3,4-Dimethylbenzaldehyde (compound C) (70.0  $\mu$ l) was added to the solution at room temperature, and the mixture was heated under reflux with stirring for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 804 (70.0 mg, yield 100%).

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  1.13 (6H, m), 2.28 (6H, m), 2.46 - 2.66 (6H, m), 2.92 (2H, m), 3.05 (2H, m), 3.58 - 4.05 (4H, m), 7.12 (1H, m), 7.46 (3H, m), 7.64 (1H, d,  $J = 5.1$  Hz), 8.00 (2H, m), 8.22 (1H, m), 8.95 (1H, s), 13.16 (1H, m)

Mass spectrometric value (ESI-MS) 561 (M-1)

Compound 805 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

The title compound 805 was produced in substantially the same manner as in Example A.

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  1.13 (6H, m), 2.36 (3H, m), 2.49 (4H, m), 2.62 (2H, m), 2.89 (2H, m), 3.02 (2H, m), 3.60 - 4.06 (4H, m), 7.13 (2H, m), 7.44 (2H, m), 7.67 (2H, dd,  $J = 8.2$  Hz,  $J = 2.6$  Hz), 8.01 (2H, m), 8.23 (1H, m), 8.97 (1H, s), 13.16 (1H, m)

Mass spectrometric value (ESI-MS) 547 (M-1)

Compound 806 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3-fluorobenzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

5           The title compound 806 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.14 (6H, m), 2.50 (4H, m), 2.65 (2H, m), 2.89 (2H, m), 3.03 (2H, m), 3.68 - 4.10 (4H, m), 7.02 (1H, m), 7.27 (1H, m), 7.45 (3H, m), 7.67 (1H, m), 8.03 (1H, m), 8.15 (1H, d, J = 2.7 Hz),  
10 8.29 (1H, d, J = 10.0 Hz), 9.11 (1H, s), 13.17 (1H, m)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 807 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-fluorobenzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

15           The title compound 807 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.12 (6H, m), 2.49 (4H, m), 2.64 (2H, m), 2.88 (2H, m), 3.02 (2H, m), 3.02 - 4.06 (4H, m), 7.01 (2H, m), 7.45 (2H, m), 7.79 (2H, m), 8.02 (1H, m), 8.10 (1H, s), 8.27 (1H, d, J = 5.9 Hz),  
20 9.04 (1H, s), 13.18 (1H, m)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 808 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

25           The title compound 808 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.12 (6H, m), 2.25 - 3.07 (10H, m), 3.58 - 4.10 (4H, m), 7.31 (1H, m), 7.46 (2H, m), 7.86 (1H, m), 7.98 (1H, s), 8.05 (1H, m), 8.33 (2H, m), 9.28 (1H, m), 13.18 (1H, m)

30           Mass spectrometric value (ESI-MS) 635 (M-1)

Compound 809 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

35           The title compound 809 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.13 (6H, m), 2.35 - 2.65 (6H, m), 2.91 (2H,

m), 3.04 (2H, m), 3.59 - 4.04 (7H, m), 6.88 (2H, d, J = 8.8 Hz), 7.46 (2H, m), 7.76 (2H, dd, J = 9.1 Hz, J = 2.1 Hz), 8.02 (2H, m), 8.24 (1H, m), 8.92 (1H, s), 13.20 (1H, m)

Mass spectrometric value (ESI-MS) 563 (M-1)

5 Example B

Compound      810      3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]-thiophen-2-yl]-benzamide

10 Ethyl-2-aminocyclopenta (B)thiophene-3-carboxylate (compound A) (1.0 g) was dissolved in anhydrous methylene chloride (20.0 ml). Subsequently, pyridine (760  $\mu$ l) and 3-(chloromethyl)benzoyl chloride (compound B) (880  $\mu$ l) were added to the solution at 0°C, and the mixture was stirred at 0°C for one hr. After the completion of the reaction, distilled water was added thereto, and the mixture was  
15 subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated to give 2-(3-chloromethyl-benzoylamino)-5,6-dihydro-4H-cyclopenta[b]thiophene-3-carboxylic acid ethyl ester as a useful intermediate (800 mg, crude yield 100%).

20 2-(3-Chloromethyl-benzoylamino)-5,6-dihydro-4H-cyclopenta[b]-thiophene-3-carboxylic acid ethyl ester (800 mg) produced by the above reaction was dissolved in anhydrous methylene chloride (10.0 ml). Triethylamine (420  $\mu$ l) and N,N-diethylethylenediamine (compound B') (510 mg) were added to the solution at room temperature, and the  
25 mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by  
30 column chromatography eluted with a chloroform-methanol system to give 2-{3-[(2-diethylamino-ethylamino)-methyl]-benzoylamino}-5,6-dihydro-4H-cyclopenta[b]thiophene-3-carboxylic acid ethyl ester as a useful intermediate (671 mg, yield 68%).

35 2-{3-[(2-Diethylamino-ethylamino)-methyl]-benzoylamino}-5,6-dihydro-4H-cyclopenta[b]thiophene-3-carboxylic acid ethyl ester (671 mg) produced by the above reaction was dissolved in ethanol (10.0 ml),

hydrazine monohydrate (700  $\mu$ l) was added to the solution, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-[(2-diethylamino-ethylamino)-methyl-N-(3-hydrazinocarbonyl-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-benzamide (438 mg, yield 65%) as a hydrazine compound.

The hydrazine compound 3-[(2-diethylamino-ethylamino)-methyl-N-(3-hydrazinocarbonyl-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl)-benzamide (50 mg) produced by the above reaction was dissolved in anhydrous toluene (1.0 ml). 3,4-Dimethylbenzaldehyde (compound C) (70.0  $\mu$ l) was added to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, the reaction product was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 810 (43.0 mg, yield 66%).

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  1.04 (6H, t,  $J = 7.1$  Hz), 2.28 (6H, s), 2.47 - 2.67 (8H, m), 2.74 (2H, m), 2.90 (2H, m), 3.05 (2H, m), 3.90 (2H, s), 7.14 (1H, d,  $J = 7.8$  Hz), 7.43 (2H, m), 7.57 (1H, d,  $J = 7.8$  Hz), 7.61 (1H, s), 7.94 (1H, d,  $J = 7.8$  Hz), 7.99 (2H, s), 8.96 (1H, bs), 12.95 (1H, bs)

Mass spectrometric value (ESI-MS) 544 (M-1)

Compound 811 3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

The title compound 811 was produced in substantially the same manner as in Example B.

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  1.06 (6H, t,  $J = 7.1$  Hz), 2.38 (3H, s), 2.51 - 2.80 (10H, m), 2.93 (2H, m), 3.06 (2H, m), 3.91 (2H, s), 7.21 (2H, d,  $J = 8.0$  Hz), 7.45 (1H, dd,  $J = 7.7$  Hz,  $J = 7.7$  Hz), 7.58 (1H, d,  $J = 7.6$  Hz), 7.67 (2H, d,  $J = 7.8$  Hz), 7.95 (1H, d,  $J = 7.8$  Hz), 8.00 (1H, s), 8.04 (1H, s), 8.98 (1H, bs), 12.95 (1H, bs)

Mass spectrometric value (ESI-MS) 530 (M-1)

Compound 812 3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(3-fluoro-

benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

The title compound 812 was produced in substantially the same manner as in Example B.

5 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.07 (6H, t, J = 7.2 Hz), 2.51 (2H, m), 2.66 (4H, m), 2.73 (2H, m), 2.78 (2H, m), 2.89 (2H, m), 3.04 (2H, m), 3.90 (2H, s), 7.09 (1H, m), 7.35 (1H, m), 7.40 - 7.60 (4H, m), 7.92 (1H, d, J = 7.8 Hz), 7.98 (1H, s), 8.09 (1H, s), 9.09 (1H, bs), 12.83 (1H, bs)

Mass spectrometric value (ESI-MS) 534 (M-1)

10 Compound 813 3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(4-fluorobenzyldiene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

The title compound 813 was produced in substantially the same manner as in Example B.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (6H, t, J = 7.1 Hz), 2.49 - 2.70 (8H, m), 2.75 (2H, m), 2.91 (2H, t, J = 7.3 Hz), 3.05 (2H, t, J = 7.0 Hz), 3.90 (2H, s), 7.09 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.44 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (1H, d, J = 7.6 Hz), 7.76 (2H, m), 7.93 (1H, d, J = 7.8 Hz), 7.99 (1H, s), 8.08 (1H, s), 9.02 (1H, bs), 12.88 (1H, bs)

20 Mass spectrometric value (ESI-MS) 534 (M-1)

Compound 814 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-3-[(2-diethylamino-ethylamino)-methyl]-benzamide

The title compound 814 was produced in substantially the same manner as in Example B.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.2 Hz), 2.46 - 2.65 (8H, m), 2.71 (2H, m), 2.88 (2H, t, J = 7.1 Hz), 3.03 (2H, t, J = 6.8 Hz), 3.88 (2H, s), 7.45 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.54 (2H, m), 7.90 (2H, m), 7.98 (2H, m), 8.17 (1H, s), 9.13 (1H, bs), 12.78 (1H, bs)

30 Mass spectrometric value (ESI-MS) 618 (M-1)

Compound 815 3-[(2-Diethylamino-ethylamino)-methyl]-N-[3-(4-methoxybenzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

The title compound 815 was produced in substantially the same manner as in Example B.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.1 Hz), 2.45 - 2.65 (8H, m),

2.71 (2H, m), 2.89 (2H, t, J = 7.2 Hz), 3.03 (2H, t, J = 7.1 Hz), 3.83 (3H, s), 3.89 (2H, s), 6.89 (2H, d, J = 8.8 Hz), 7.44 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.56 (1H, d, J = 7.6 Hz), 7.69 (2H, d, J = 8.8 Hz), 7.93 (1H, d, J = 8.1 Hz), 7.99 (2H, m), 8.93 (1H, bs), 12.94 (1H, bs)

5 Mass spectrometric value (ESI-MS) 546 (M-1)

Compound 816 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

10 The title compound 816 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.38 (2H, m), 1.50 (1H, m), 1.73 (2H, d, J = 12.0 Hz), 2.07 (2H, m), 2.30 (6H, s), 2.56 (2H, m), 2.94 (4H, m), 3.07 (2H, m), 3.50 (2H, d, J = 6.1 Hz), 3.65 (2H, s), 7.17 (1H, d, J = 7.8 Hz), 7.46 (2H, m), 7.60 (1H, d, J = 7.8 Hz), 7.64 (1H, s), 7.97 (1H, d, J = 7.6 Hz),  
15 8.01 (2H, m), 8.96 (1H, s), 12.97 (1H, s)

Mass spectrometric value (ESI-MS) 543 (M-1)

Compound 817 3-(4-Hydroxymethyl-piperidin-1-ylmethyl)-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

20 The title compound 817 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.39 (2H, m), 1.52 (1H, m), 1.72 (2H, d, J = 11.5 Hz), 2.11 (2H, m), 2.39 (3H, s), 2.55 (2H, m), 2.90 - 3.02 (4H, m), 3.07 (2H, t, J = 7.1 Hz), 3.49 (2H, d, J = 6.1 Hz), 3.69 (2H, s), 7.21 (2H, d, J = 8.1 Hz), 7.45 (1H, dd, J = 7.5 Hz, J = 7.5 Hz), 7.61 (1H, d, J = 7.6 Hz), 7.67 (2H, d, J = 8.0 Hz), 7.94 - 8.02 (2H, m), 8.05 (1H, s), 8.97 (1H, s), 12.95 (1H, s)

Mass spectrometric value (ESI-MS) 529 (M-1)

30 Compound 818 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 818 was produced in substantially the same manner as in Example A.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.35 (2H, m), 1.45 - 1.75 (3H, m), 2.03 (2H, m), 2.57 (2H, m), 2.94 (4H, m), 3.08 (2H, d, J = 7.1 Hz), 3.50 (2H, d, J = 6.1 Hz), 3.60 (2H, s), 7.12 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.45 (1H, dd,

J = 7.7 Hz, J = 7.7 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.80 (2H, m), 7.95 (1H, d, J = 7.8 Hz), 8.01 (1H, s), 8.09 (1H, s), 8.99 (1H, s), 12.90 (1H, s)

Mass spectrometric value (ESI-MS) 533 (M-1)

Compound 819 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 819 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.36 - 1.62 (3H, m), 1.74 (2H, m), 2.14 (2H, m), 2.56 (2H, m), 2.90 - 3.14 (6H, m), 3.50 (2H, d, J = 6.1 Hz), 3.72 (2H, s), 7.11 (1H, m), 7.38 (1H, m), 7.44 - 7.59 (3H, m), 7.62 (1H, m), 7.90 - 8.03 (2H, m), 8.10 (1H, s), 9.06 (1H, s), 12.88 (1H, s)

Mass spectrometric value (ESI-MS) 533 (M-1)

Compound 820 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-3-(4-hydroxymethyl-piperidin-1-ylmethyl)-benzamide

The title compound 820 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.30 - 1.77 (5H, m), 2.03 (2H, m), 2.58 (2H, m), 2.93 (4H, m), 3.08 (2H, d, J = 7.1 Hz), 3.50 (2H, d, J = 6.3 Hz), 3.60 (2H, s), 7.46 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.58 (2H, m), 7.90 - 8.06 (4H, m), 8.19 (1H, s), 9.09 (1H, s), 12.81 (1H, s)

Mass spectrometric value (ESI-MS) 617 (M-1)

Compound 821 3-(4-Hydroxymethyl-piperidin-1-ylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-5,6-dihydro-4H-cyclopenta[b]thiophen-2-yl]-benzamide

The title compound 821 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.34 (2H, m), 1.50 (1H, m), 1.70 (2H, m), 2.02 (2H, m), 2.54 (2H, m), 2.91 (4H, m), 3.59 (2H, m), 3.49 (2H, d, J = 6.3 Hz), 3.58 (2H, s), 3.85 (3H, s), 6.92 (2H, m), 7.44 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (1H, d, J = 7.6 Hz), 7.72 (2H, m), 7.94 (1H, d, J = 7.8 Hz), 8.01 (2H, m), 8.92 (1H, s), 12.96 (1H, s)

Mass spectrometric value (ESI-MS) 545 (M-1)

Compound 822 3-Dimethylaminomethyl-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide



The title compound 822 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.26 (6H, s), 2.29 (6H, s), 2.58 (3H, s), 3.53 (2H, s), 6.51 (1H, d, J = 1.0 Hz), 7.17 (1H, d, J = 7.8 Hz), 7.46 (2H, m), 7.57 (1H, d, J = 7.6 Hz), 7.64 (1H, s), 7.95 (2H, m), 8.08 (1H, s), 9.11 (1H, s), 12.93 (1H, bs)

Mass spectrometric value (ESI-MS) 447 (M-1)

Compound 823 3-Dimethylaminomethyl-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

10 The title compound 823 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.26 (6H, s), 2.39 (3H, s), 2.58 (3H, s), 3.53 (2H, s), 6.52 (1H, d, J = 1.0 Hz), 7.23 (2H, d, J = 7.8 Hz), 7.46 (1H, dd, J = 8.3 Hz, J = 8.3 Hz), 7.57 (1H, d, J = 7.8 Hz), 7.69 (2H, d, J = 7.6 Hz), 7.95 (2H, m), 8.12 (1H, s), 9.12 (1H, s), 12.91 (1H, bs)

Mass spectrometric value (ESI-MS) 433 (M-1)

Compound 824 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-dimethylaminomethyl-benzamide

20 The title compound 824 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.26 (6H, s), 2.52 (3H, s), 3.53 (2H, s), 6.49 (1H, s), 7.47 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (2H, m), 7.94 (3H, m), 8.04 (1H, m), 8.27 (1H, s), 9.36 (1H, bs), 12.66 (1H, bs)

25 Mass spectrometric value (ESI-MS) 521 (M-1)

Compound 825 3-Dimethylaminomethyl-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 825 was produced in substantially the same manner as in Example A.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.26 (6H, s), 2.57 (3H, s), 3.53 (2H, s), 3.85 (3H, s), 6.51 (1H, d, J = 1.0 Hz), 6.93 (2H, m), 7.46 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.57 (1H, d, J = 7.8 Hz), 7.74 (2H, d, J = 8.8 Hz), 7.95 (2H, m), 8.09 (1H, s), 9.09 (1H, s), 12.93 (1H, bs)

Mass spectrometric value (ESI-MS) 449 (M-1)

35 Compound 826 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-pyrimidin-2-yl-piperazin-1-ylmethyl)-

benzamide

The title compound 826 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.29 (6H, s), 2.53 (4H, t, J = 5.0 Hz), 2.59 (3H, s), 3.63 (2H, s), 3.84 (4H, t, J = 5.0 Hz), 6.45 (1H, dd, J = 4.6 Hz, J = 4.6 Hz), 6.54 (1H, s), 7.17 (1H, d, J = 7.6 Hz), 7.47 (2H, m), 7.60 (1H, d, J = 7.6 Hz), 7.64 (1H, s), 7.96 (1H, d, J = 7.8 Hz), 8.05 (1H, s), 8.07 (1H, s), 8.28 (2H, d, J = 4.6 Hz), 9.07 (1H, s), 12.99 (1H, bs)

Mass spectrometric value (ESI-MS) 566 (M-1)

10 Compound 827 N-[4-Methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-3-(4-pyrimidin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 827 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.39 (3H, s), 2.53 (4H, t, J = 5.0 Hz), 2.59 (3H, s), 3.64 (2H, s), 3.85 (4H, t, J = 4.7 Hz), 6.46 (1H, dd, J = 4.7 Hz, J = 4.7 Hz), 6.53 (1H, s), 7.21 (2H, d, J = 8.0 Hz), 7.47 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.60 (1H, d, J = 7.6 Hz), 7.68 (2H, d, J = 8.1 Hz), 7.96 (1H, d, J = 7.8 Hz), 8.05 (1H, s), 8.11 (1H, s), 8.29 (2H, d, J = 4.6 Hz), 9.09 (1H, s), 12.97 (1H, bs)

20 Mass spectrometric value (ESI-MS) 552 (M-1)

Compound 828 N-[3-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-pyrimidin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 828 was produced in substantially the same manner as in Example A.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.54 (4H, t, J = 5.0 Hz), 2.59 (3H, s), 3.64 (2H, s), 3.85 (4H, t, J = 5.1 Hz), 6.46 (1H, dd, J = 4.9 Hz, J = 4.9 Hz), 6.54 (1H, s), 7.10 (2H, m), 7.46 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.60 (1H, d, J = 7.6 Hz), 7.79 (2H, m), 7.95 (1H, d, J = 7.8 Hz), 8.05 (1H, s), 8.15 (1H, s), 8.29 (2H, d, J = 4.9 Hz), 9.12 (1H, s), 12.92 (1H, bs)

30 Mass spectrometric value (ESI-MS) 556 (M-1)

Compound 829 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-pyrimidin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 829 was produced in substantially the same manner as in Example A.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.53 (4H, t, J = 5.0 Hz), 2.59 (3H, s), 3.64 (2H, s), 3.85 (4H, t, J = 5.0 Hz), 6.46 (1H, dd, J = 4.7 Hz, J = 4.7 Hz),

6.55 (1H, s), 7.12 (1H, m), 7.38 (1H, m), 7.46 - 7.64 (4H, m), 7.95 (1H, m), 8.05 (1H, m), 8.17 (1H, s), 8.28 (2H, d, J = 4.6 Hz), 9.17 (1H, s), 12.87 (1H, bs)

Mass spectrometric value (ESI-MS) 556 (M-1)

- 5    Compound 830    N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-pyrimidin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 830 was produced in substantially the same manner as in Example A.

- 10    <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.53 (4H, t, J = 5.0 Hz), 2.59 (3H, s), 3.65 (2H, s), 3.85 (4H, t, J = 5.0 Hz), 6.46 (1H, dd, J = 4.8 Hz, J = 4.8 Hz), 6.55 (1H, s), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.55 (1H, d, J = 8.3 Hz), 7.61 (1H, d, J = 7.6 Hz), 7.96 (2H, m), 8.05 (2H, m), 8.26 (1H, s), 8.28 (2H, d, J = 4.6 Hz), 9.21 (1H, s), 12.84 (1H, bs)

- 15    Mass spectrometric value (ESI-MS) 640 (M-1)

Compound 831    N-[3-(4-Methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(4-pyrimidin-2-yl-piperazin-1-ylmethyl)-benzamide

The title compound 831 was produced in substantially the same manner as in Example A.

- 20    <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.53 (4H, t, J = 4.8 Hz), 2.60 (3H, s), 3.64 (2H, s), 3.84 (7H, m), 6.45 (1H, d, J = 4.8 Hz), 6.55 (1H, s), 6.93 (2H, d, J = 8.8 Hz), 7.47 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.61 (1H, d, J = 7.6 Hz), 7.74 (2H, d, J = 8.8 Hz), 7.97 (1H, d, J = 7.8 Hz), 8.05 (1H, s), 8.08 (1H, s), 8.29 (2H, d, J = 4.4 Hz), 9.02 (1H, s), 13.04 (1H, bs)

Mass spectrometric value (ESI-MS) 568 (M-1)

Compound 832    N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(1,4-dioxo-8-aza-spiro[4,5]dec-8-ylmethyl)-benzamide

- 30    The title compound 832 was produced in substantially the same manner as in Example A.

- <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.76 (4H, m), 2.31 (6H, s), 2.55 (4H, m), 2.62 (3H, s), 3.62 (2H, s), 3.94 (4H, s), 6.55 (1H, s), 7.26 (1H, m), 7.47 (2H, m), 7.53 (1H, m), 7.66 (1H, s), 7.95 (1H, d, J = 7.8 Hz), 8.01 (1H, s), 8.07 (1H, s), 9.03 (1H, s), 13.03 (1H, bs)

Mass spectrometric value (ESI-MS) 545 (M-1)

Compound 833 3-(1,4-Dioxo-8-aza-spiro[4,5]dec-8-ylmethyl)-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 833 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.76 (4H, t, J = 5.5 Hz), 2.40 (3H, s), 2.55 (4H, m), 2.60 (3H, s), 3.62 (2H, s), 3.94 (4H, s), 6.54 (1H, s), 7.23 (2H, d, J = 8.0 Hz), 7.45 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.58 (1H, d, J = 7.8 Hz), 7.70 (2H, d, J = 8.0 Hz), 7.93 (1H, d, J = 7.8 Hz), 8.01 (1H, s), 8.11 (1H, s), 9.06 (1H, s), 12.97 (1H, bs)

Mass spectrometric value (ESI-MS) 531 (M-1)

Compound 834 3-(1,4-Dioxo-8-aza-spiro[4,5]dec-8-ylmethyl)-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 834 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.76 (4H, t, J = 5.4 Hz), 2.56 (4H, m), 2.59 (3H, s), 3.62 (2H, s), 3.94 (4H, s), 6.55 (1H, s), 7.12 (2H, dd, J = 8.6 Hz, J = 8.6 Hz), 7.45 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.58 (1H, d, J = 7.8 Hz), 7.81 (2H, m), 7.93 (1H, d, J = 7.6 Hz), 8.01 (1H, s), 8.15 (1H, s), 9.10 (1H, s), 12.91 (1H, bs)

Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 835 3-(1,4-Dioxo-8-aza-spiro[4,5]dec-8-ylmethyl)-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 835 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.76 (4H, t, J = 5.4 Hz), 2.55 (7H, m), 3.62 (2H, s), 3.94 (4H, s), 6.51 (1H, s), 7.11 (1H, m), 7.34 - 7.60 (5H, m), 7.91 (1H, d, J = 7.6 Hz), 8.01 (1H, s), 8.18 (1H, s), 9.22 (1H, s), 12.78 (1H, bs)

Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 836 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-3-(1,4-dioxo-8-aza-spiro[4,5]dec-8-ylmethyl)-benzamide

The title compound 836 was produced in substantially the same

manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.76 (4H, t, J = 5.5 Hz), 2.57 (7H, m), 3.62 (2H, s), 3.94 (4H, s), 6.53 (1H, d, J = 1.0 Hz), 7.46 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (2H, m), 7.91 (1H, m), 7.96 - 8.02 (2H, m), 8.05 (1H, d, J = 1.7 Hz), 8.27 (1H, s), 9.25 (1H, s), 12.76 (1H, bs)

Mass spectrometric value (ESI-MS) 619 (M-1)

Compound 837 3-(1,4-Dioxa-8-aza-spiro[4,5]dec-8-ylmethyl)-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 837 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.76 (4H, m), 2.56 (4H, m), 2.61 (3H, s), 3.63 (2H, s), 3.86 (3H, s), 3.94 (4H, s), 6.55 (1H, s), 6.95 (2H, m), 7.46 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.58 (1H, m), 7.76 (2H, d, J = 8.5 Hz), 7.95 (1H, d, J = 7.6 Hz), 8.01 (1H, s), 8.08 (1H, s), 9.00 (1H, s), 13.03 (1H, bs)

Mass spectrometric value (ESI-MS) 547 (M-1)

Compound 838 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 838 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (12H, t, J = 7.1 Hz), 2.29 (6H, m), 2.43 - 2.66 (19H, m), 3.73 (2H, s), 6.52 (1H, d, J = 1.0 Hz), 7.17 (1H, d, J = 7.8 Hz), 7.44 (2H, m), 7.62 (2H, m), 7.92 (1H, d, J = 7.8 Hz), 8.01 (1H, s), 8.09 (1H, s)

Mass spectrometric value (ESI-MS) 617 (M-1)

Compound 839 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[4-methyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 839 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (12H, t, J = 7.1 Hz), 2.38 (3H, s), 2.45 - 2.65 (19H, m), 3.72 (2H, s), 6.51 (1H, d, J = 1.2 Hz), 7.22 (2H, d, J = 7.8 Hz), 7.43 (1H, m), 7.60 (1H, m), 7.68 (2H, d, J = 7.8 Hz), 7.91 (1H, d, J = 7.8 Hz), 8.00 (1H, s), 8.13 (1H, s)

Mass spectrometric value (ESI-MS) 603 (M-1)

Compound 840 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

5 The title compound 840 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (12H, t, J = 7.1 Hz), 2.43 - 2.66 (19H, m), 3.72 (2H, s), 6.50 (1H, d, J = 1.0 Hz), 7.10 (2H, dd, J = 8.5 Hz, J = 8.5 Hz), 7.44 (1H, m), 7.62 (1H, d, J = 7.6 Hz), 7.79 (2H, m), 7.89 (1H, d, J = 7.8 Hz), 8.00 (1H, s), 8.18 (1H, s)

10 Mass spectrometric value (ESI-MS) 607 (M-1)

Compound 841 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

15 The title compound 841 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (12H, t, J = 7.1 Hz), 2.44 - 2.64 (19H, m), 3.73 (2H, s), 6.51 (1H, s), 7.11 (1H, s), 7.34 - 7.64 (5H, m), 7.90 (1H, d, J = 7.8 Hz), 8.01 (1H, s), 8.19 (1H, s)

20 Mass spectrometric value (ESI-MS) 607 (M-1)

Compound 842 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

25 The title compound 842 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.97 (12H, m), 2.42 - 2.64 (19H, m), 3.72 (2H, m), 6.47 (1H, d, J = 1.0 Hz), 7.30 - 7.68 (4H, m), 7.77 - 8.05 (3H, m), 8.27 (1H, s)

Mass spectrometric value (ESI-MS) 691 (M-1)

30 Compound 843 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide

The title compound 843 was produced in substantially the same manner as in Example B.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (12H, t, J = 7.2 Hz), 2.45 - 2.66 (19H, m), 3.72 (2H, s), 3.85 (3H, s), 6.52 (1H, d, J = 1.0 Hz), 6.93 (2H, d, J =

8.8 Hz), 7.44 (1H, m), 7.62 (1H, d, J = 7.8 Hz), 7.74 (2H, d, J = 8.6 Hz), 7.92 (1H, d, J = 7.8 Hz), 8.01 (1H, s), 8.10 (1H, s)

Mass spectrometric value (ESI-MS) 619 (M-1)

5 Compound 844 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4,5-dimethyl-thiophen-2-yl]-benzamide

The title compound 844 was produced in substantially the same manner as in Example B.

10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.12 (6H, m), 2.26 - 2.64 (16H, m), 3.62 - 4.05 (4H, m), 7.13 (1H, m), 7.40 - 7.56 (3H, m), 7.65 (1H, m), 7.99 (1H, m), 8.04 (1H, s), 8.19 (1H, s), 9.10 (1H, s), 13.02 (1H, bs)

Mass spectrometric value (ESI-MS) 549 (M-1)

15 Compound 845 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4,5-dimethyl-3-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-benzamide

The title compound 845 was produced in substantially the same manner as in Example B.

20 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.11 (6H, m), 2.28 - 2.64 (13H, m), 3.60 - 4.04 (4H, m), 7.21 (2H, m), 7.43 (2H, m), 7.73 (2H, m), 7.99 (1H, m), 8.07 (1H, s), 8.21 (1H, s), 9.09 (1H, bs), 13.01 (1H, bs)

Mass spectrometric value (ESI-MS) 535 (M-1)

Compound 846 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-fluoro-benzylidene-hydrazinocarbonyl)-4,5-dimethyl-thiophen-2-yl]-benzamide

25 The title compound 846 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.11 (6H, m), 2.24 - 2.52 (8H, m), 2.63 (2H, m), 3.60 - 4.06 (4H, m), 7.04 (2H, m), 7.43 (2H, m), 7.83 (2H, m), 7.99 (1H, m), 8.13 (1H, s), 8.24 (1H, m), 9.24 (1H, s), 12.98 (1H, bs)

Mass spectrometric value (ESI-MS) 539 (M-1)

30 Compound 847 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5-dimethyl-thiophen-2-yl]-benzamide

The title compound 847 was produced in substantially the same manner as in Example B.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.11 (6H, m), 2.19 (3H, m), 2.28 (3H, m), 2.52 (2H, m), 2.67 (2H, m), 3.60 - 4.10 (4H, m), 7.33 (1H, d, J = 8.3 Hz),

7.38 - 7.50 (2H, m), 7.86 (1H, m), 7.98 - 8.10 (2H, m), 8.28 (1H, s), 8.36 (1H, s), 9.57 (1H, s), 13.03 (1H, s)

Mass spectrometric value (ESI-MS) 623 (M-1)

Compound 848 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5-dimethyl-thiophen-2-yl]-benzamide

The title compound 848 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.11 (6H, m), 2.24 - 2.64 (10H, m), 3.60 - 4.04 (7H, m), 6.91 (2H, m), 7.43 (2H, m), 7.79 (2H, m), 8.02 (2H, m), 8.23 (1H, s), 9.04 (1H, s), 13.02 (1H, bs)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 849 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 849 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (12H, t, J = 7.1 Hz), 1.91 (4H, m), 2.48 (8H, m), 2.58 (8H, m), 2.76 (2H, m), 2.87 (2H, m), 3.73 (2H, s), 7.44 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (1H, d, J = 8.3 Hz), 7.62 (1H, d, J = 7.6 Hz), 7.90 (1H, d, J = 8.1 Hz), 7.97 (1H, dd, J = 8.3 Hz, J = 2.0 Hz), 8.00 (1H, s), 8.04 (1H, d, J = 1.7 Hz), 8.22 (1H, s)

Mass spectrometric value (ESI-MS) 731 (M-1)

Compound 850 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 850 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (12H, t, J = 7.2 Hz), 1.92 (4H, m), 2.49 (8H, m), 2.58 (8H, m), 2.76 (2H, m), 2.89 (2H, m), 3.72 (2H, s), 3.88 (3H, s), 6.97 (2H, m), 7.27 - 7.46 (3H, m), 7.61 (1H, d, J = 7.8 Hz), 7.92 (1H, d, J = 7.3 Hz), 8.00 (1H, s), 8.10 (1H, s)

Mass spectrometric value (ESI-MS) 659 (M-1)

### Example C

Compound 851 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-



yl]-benzamide; hydrochloride

Diethyl ether (200  $\mu$ l) was added to compound 591: 3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide (30 mg) produced by the process described in Example 8 at room temperature. Further, a few drops of 10% hydrochloric acid-methanol were added thereto, and the mixture was stirred for a few minutes. The reaction solution was then filtered through Kiriyaama Rohto, and the crystals were washed with diethyl ether to give the title compound 851 (25 mg, yield 80%).

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  1.14 - 1.27 (6H, m), 2.56 (3H, s), 2.90 (4H, m), 4.22 (4H, m), 6.53 (1H, m), 7.53 (2H, m), 7.70 (1H, m), 7.95 (1H, m), 8.03 (1H, d,  $J$  = 8.0 Hz), 8.07 (1H, s), 8.20 (1H, d,  $J$  = 7.3 Hz), 8.36 (1H, m)

Mass spectrometric value (ESI-MS) 609 (M-1)

Compound 852 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-thiophen-2-yl]-benzamide; hydrochloride

The title compound 852 was produced in substantially the same manner as in Example C.

$^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  1.22 (6H, d,  $J$  = 6.1 Hz), 2.53 (3H, s), 3.30 (4H, m), 3.85 (3H, s), 4.20 (4H, m), 6.73 (1H, d,  $J$  = 1.0 Hz), 6.99 (2H, d,  $J$  = 8.5 Hz), 7.60 - 7.85 (4H, m), 8.00 - 8.29 (3H, m)

Mass spectrometric value (ESI-MS) 538 (M-1)

#### Example D

Compound 853 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-fluoro-phenyl]-benzamide; hydrochloride

Diethyl ether (200  $\mu$ l) was added to compound 857: 3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-fluoro-phenyl]-benzamide (30 mg) produced by the process described in Example A at room temperature, a few drops of 10% hydrochloric acid-methanol were further added thereto, and the mixture was stirred for a few minutes. The reaction solution was then filtered through Kiriyaama Rohto, and the crystals were washed with diethyl ether to give the title compound 853 (25 mg, yield 80%).

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.15 - 1.32 (6H, m), 3.00 - 3.40 (4H, m), 4.10 - 4.86 (4H, m), 7.44 (1H, m), 7.68 - 7.85 (4H, m), 8.03 (1H, d, J = 7.8 Hz), 8.14 (2H, m), 8.36 (1H, m), 8.41 (1H, s), 8.62 (1H, m)

Mass spectrometric value (ESI-MS) 608 (M-1)

- 5 Compound 854 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-fluoro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide; hydrochloride

The title compound 854 was produced in substantially the same manner as in Example D.

- 10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.18 (6H, m), 3.30 (4H, m), 3.85 (3H, s), 4.00 - 4.30 (4H, m), 6.98 (2H, d, J = 8.5 Hz), 7.35 (1H, m), 7.65 - 7.83 (5H, m), 8.00 - 8.17 (2H, m), 8.31 (1H, s), 8.70 (1H, m)

Mass spectrometric value (ESI-MS) 536 (M-1)

#### Example E

- 15 Compound 855 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide; hydrochloride

- Diethyl ether (200 μl) was added to compound 849: 3-[[bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide (30 mg) produced by the process described in Example B at room temperature, a few drops of 10% hydrochloric acid-methanol were further added thereto, and the mixture was stirred for a few minutes. The reaction solution was then filtered through Kiriyaama Rohto, and the crystals were washed with diethyl ether to give the title compound 855 (25 mg, yield 80%).

- 30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.28 (12H, m), 1.91 (4H, m), 2.77 (2H, m), 2.87 (2H, m), 3.04 (4H, m), 3.18 (8H, m), 3.40 (4H, m), 3.92 (2H, s), 7.62 (1H, m), 7.70 (1H, m), 7.77 (1H, m), 7.95 (1H, m), 8.01 (2H, m), 8.32 (2H, m)

Mass spectrometric value (ESI-MS) 732 (M-1)

Compound 856 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide; hydrochloride

- 35 The title compound 856 was produced in substantially the same manner as in Example E.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.29 (12H, m), 1.89 (4H, m), 2.70 - 2.92 (4H, m), 3.00 - 3.28 (12H, m), 3.43 (4H, m), 3.87 (3H, s), 3.97 (2H, s), 7.20 (1H, m), 7.30 - 7.40 (2H, m), 7.52 (1H, m), 7.63 (1H, m), 7.77 (1H, m), 7.98 (1H, m), 8.04 (1H, s), 8.27 (1H, s)

5 Mass spectrometric value (ESI-MS) 660 (M-1)

Compound 857 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-fluoro-phenyl]-benzamide

10 The title compound 857 was produced in substantially the same manner as in Example A.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.08 (6H, m), 2.43 - 2.60 (4H, m), 3.60 - 3.95 (4H, m), 7.40 (1H, m), 7.50 (1H, m), 7.60 (1H, m), 7.69 (2H, d, J = 7.6 Hz), 7.85 (1H, m), 8.07 (2H, m), 8.34 (1H, m), 8.38 (1H, s), 8.65 (1H, m),

15 Mass spectrometric value (ESI-MS) 608 (M-1)

#### Example F

Compound 858 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-ylphenyl]-benzamide

20 5-Chloro-2-nitro-benzoic acid (compound A') (5.0 g) was dissolved in methanol (150 ml). Thionyl chloride (9.5 ml) was added to the solution at 0°C, and the mixture was heated under reflux with stirring for 15 hr. After the completion of the reaction, distilled water was added thereto at 0°C, and the mixture was subjected to separatory extraction

25 with chloroform. The organic layer was washed with distilled water and saturated brine, was dried over sodium sulfate, and was then concentrated to give 5-chloro-2-nitro-benzoic acid methyl ester as a useful intermediate (12.9 g, yield 92%).

30 5-Chloro-2-nitro-benzoic acid methyl ester (2.2 g) produced by the above reaction was dissolved in N,N-dimethylformamide (20 ml). Piperidine (compound D) (1.5 g) and potassium carbonate (1.5 g) were added to the solution at room temperature, and the mixture was stirred at 75°C for 15 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to

35 separatory extraction with chloroform. The organic layer was washed with distilled water and saturated brine, was dried over sodium sulfate,

and was then concentrated to give 2-nitro-5-piperidin-1-yl-benzoic acid methyl ester as a useful intermediate (1.86 g, crude yield 69%).

2-Nitro-5-piperidin-1-yl-benzoic acid methyl ester (4.8 g) produced by the above reaction was dissolved in ethanol (5.0 ml), and  
5 10% palladium-carbon (500 mg) was added to the solution. The air in the reaction system was then replaced by hydrogen, and the reaction solution was stirred at room temperature for 15 hr. After the completion of the reaction, the atmosphere in the reaction system was replaced by nitrogen, followed by filtration through Celite. The filtrate was  
10 concentrated, and the residue was purified by column chromatography using a hexane-acetone system to give 2-amino-5-piperidin-1-yl-benzoic acid methyl ester (compound A) as a useful intermediate (3.7 g, yield 87%).

2-Amino-5-piperidin-1-yl-benzoic acid methyl ester (compound A)  
15 (2.1 g) produced by the above reaction was dissolved in anhydrous methylene chloride (20.0 ml). Subsequently, pyridine (900  $\mu$ l) and 3-(chloromethyl)benzoyl chloride (compound B) (740  $\mu$ l) were added to the solution at 0°C, and the mixture was stirred at 0°C for one hr. After the completion of the reaction, distilled water was added thereto, and the  
20 mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate and was then concentrated. The residue was purified by column chromatography using a chloroform-acetone system to give 2-(3-chloromethyl-benzoylamino)-5-piperidin-1-yl-benzoic acid methyl ester  
25 as a useful intermediate (1.8 g, yield 50%).

2-(3-Chloromethyl-benzoylamino)-5-piperidin-1-yl-benzoic acid methyl ester (500 mg) produced by the above reaction was dissolved in anhydrous methylene chloride (5.0 ml). Triethylamine (400  $\mu$ l) and N,N-diethyl-N'-methylethylenediamine (compound B') (325 mg) were added  
30 to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then  
35 concentrated. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-[(2-diethylamino-

ethyl)-methyl-amino]-methyl}-benzoylamino)-5-piperidin-1-yl-benzoic acid methyl ester as a useful intermediate (612 mg, yield 98%).

2-(3-{[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-benzoylamino)-5-piperidin-1-yl-benzoic acid methyl ester (612 mg) produced by the above reaction was dissolved in ethanol (10.0 ml). Hydrazine monohydrate (700  $\mu$ l) was added to the solution, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-{[(2-diethylamino-ethyl)-methyl-amino]-methyl}-N-(2-hydrazinocarbonyl-4-piperidin-1-yl-phenyl)-benzamide as a hydrazine compound (612 mg, yield 100%).

3-{[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-(2-hydrazinocarbonyl-4-piperidin-1-yl-phenyl)-benzamide as a hydrazine compound (70 mg) produced by the above reaction was dissolved in anhydrous toluene (1.0 ml). 3,4-Dimethylbenzaldehyde (compound C) (40  $\mu$ l) was added to the solution at room temperature, and the mixture was stirred at 70°C for 15 hr. After the completion of the reaction, the reaction product was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 858 (62 mg, yield 70%).

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz):  $\delta$  1.04 (6H, t, J = 7.2 Hz), 1.26 (2H, m), 1.37 (4H, m), 2.26 (9H, m), 2.60 (6H, m), 2.69 (2H, m), 2.84 (4H, m), 3.62 (2H, s), 6.86 (1H, d, J = 8.8 Hz), 7.00 (1H, s), 7.15 (1H, d, J = 7.6 Hz), 7.44 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.53 (2H, m), 7.65 (1H, s), 7.89 (1H, d, J = 7.6 Hz), 7.98 (1H, s), 8.10 (1H, d, J = 8.8 Hz), 8.51 (1H, s), 11.23 (2H, m)

Mass spectrometric value (ESI-MS) 595 (M-1)

Compound 859 3-{[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 859 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (6H, t, J = 7.2 Hz), 1.29 (2H, m), 1.40 (4H, m), 2.25 (3H, s), 2.37 (3H, s), 2.62 (6H, m), 2.72 (2H, m), 2.87 (4H, m), 3.62 (2H, s), 6.89 (1H, d, J = 8.8 Hz), 7.02 (1H, s), 7.20 (2H, d, J = 7.8 Hz), 7.43 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.53 (1H, d, J = 7.3 Hz), 7.72 (2H, d, J = 7.6 Hz), 7.88 (1H, d, J = 7.6 Hz), 7.97 (1H, s), 8.13 (1H, d, J = 9.0 Hz), 8.51 (1H, s), 11.23 (2H, m)

Mass spectrometric value (ESI-MS) 581 (M-1)

Compound 860 3-[[2-(Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-

10 benzamide

The title compound 860 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.05 (6H, t, J = 7.1 Hz), 1.28 (2H, m), 1.37 (4H, m), 2.25 (3H, s), 2.62 (6H, m), 2.72 (2H, m), 2.84 (4H, m), 3.63 (2H, s), 6.87 (1H, d, J = 8.5 Hz), 6.99 (1H, m), 7.09 (2H, dd, J = 8.5 Hz, J = 8.5 Hz), 7.44 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.54 (1H, d, J = 7.3 Hz), 7.83 (2H, m), 7.88 (1H, d, J = 7.4 Hz), 7.98 (1H, s), 8.07 (1H, d, J = 9.0 Hz), 8.56 (1H, s), 11.19 (1H, s)

Mass spectrometric value (ESI-MS) 585 (M-1)

20 Compound 861 3-[[2-(Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 861 was produced in substantially the same manner as in Example F.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.10 (6H, t, J = 7.0 Hz), 1.30 (2H, m), 1.39 (4H, m), 2.25 (3H, s), 2.64 - 2.90 (12H, m), 3.62 (2H, s), 6.89 (1H, d, J = 8.5 Hz), 7.07 (2H, m), 7.27 - 7.65 (4H, m), 7.68 - 8.00 (3H, m), 8.11 (1H, d, J = 9.0 Hz), 8.53 (1H, s), 11.23 (1H, s)

Mass spectrometric value (ESI-MS) 585 (M-1)

30 Compound 862 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-[[2-(diethylamino-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 862 was produced in substantially the same manner as in Example F.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.2 Hz), 1.23 (2H, m), 1.32 (4H, m), 2.27 (3H, s), 2.58 (6H, m), 2.67 (2H, m), 2.79 (4H, m), 3.64 (2H,

s), 6.81 (1H, d, J = 8.5 Hz), 6.92 (1H, s), 7.47 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (2H, m), 7.88 (1H, d, J = 7.8 Hz), 7.95 (1H, d, J = 9.0 Hz), 8.01 (1H, s), 8.06 (1H, d, J = 8.1 Hz), 8.10 (1H, s), 8.64 (1H, s), 11.08 (1H, s)

5 Mass spectrometric value (ESI-MS) 669 (M-1)

Compound 863 3-[[2-(Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

10 The title compound 863 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.06 (6H, t, J = 7.1 Hz), 1.32 (2H, m), 1.43 (4H, m), 2.24 (3H, s), 2.62 (6H, m), 2.72 (2H, m), 2.90 (4H, m), 3.62 (2H, s), 3.82 (3H, s), 6.83 - 6.95 (3H, m), 7.05 (1H, s), 7.42 (1H, m), 7.52 (1H, m), 7.74 (2H, d, J = 8.6 Hz), 7.88 (1H, d, J = 7.6 Hz), 7.96 (1H, s), 8.18 (1H, d, J = 9.0 Hz), 8.48 (1H, s)

15 Mass spectrometric value (ESI-MS) 597 (M-1)

Compound 864 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

20 The title compound 864 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.42 (4H, m), 1.32 (2H, m), 2.28 (3H, s), 2.29 (3H, s), 2.48 - 2.72 (10H, m), 2.88 (4H, m), 3.61 (4H, m), 6.92 (1H, m), 6.99 (1H, m), 7.16 (1H, d, J = 7.8 Hz), 7.44 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.51 (2H, m), 7.65 (1H, s), 7.90 (1H, d, J = 7.8 Hz), 7.99 (1H, s), 8.17 (1H, d, J = 9.2 Hz), 8.43 (1H, s), 10.71 (1H, s), 11.21 (1H, s)

25 Mass spectrometric value (ESI-MS) 595 (M-1)

Compound 865 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

30 The title compound 865 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.28 (2H, m), 1.39 (4H, m), 2.36 (3H, s), 2.48 - 2.90 (14H, m), 3.60 (4H, m), 6.88 (1H, d, J = 9.0 Hz), 6.99 (1H, s), 7.20 (2H, d, J = 8.0 Hz), 7.44 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.51 (1H, d, J = 7.3 Hz), 7.72 (2H, d, J = 7.8 Hz), 7.90 (1H, d, J = 7.6 Hz), 7.99 (1H,

s), 8.13 (1H, d, J = 9.0 Hz), 8.49 (1H, s), 10.95 (1H, s), 11.23 (1H, s)

Mass spectrometric value (ESI-MS) 581 (M-1)

Compound 866 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-

5 benzamide

The title compound 866 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.27 (2H, m), 1.37 (4H, m), 2.55 - 2.90 (14H, m), 3.62 (2H, s), 3.68 (2H, t, J = 5.2 Hz), 6.88 (1H, d, J = 8.8 Hz),  
10 7.00 - 7.16 (2H, m), 7.31 - 7.60 (4H, m), 7.70 - 8.03 (3H, m), 8.11 (1H, d, J = 9.0 Hz), 8.52 (1H, s), 11.21 (1H, s), 11.35 (1H, s)

Mass spectrometric value (ESI-MS) 585 (M-1)

Compound 867 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-

15 benzamide

The title compound 867 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.26 (2H, m), 1.36 (4H, m), 2.58 (10H, m), 2.83 (4H, m), 3.62 (4H, m), 6.87 (1H, d, J = 8.8 Hz), 6.98 (1H, s), 7.08  
20 (2H, dd, J = 8.4 Hz, J = 8.4 Hz), 7.44 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.52 (1H, d, J = 7.8 Hz), 7.81 (2H, m), 7.89 (1H, d, J = 7.6 Hz), 7.98 (1H, s), 8.09 (1H, d, J = 9.0 Hz), 8.53 (1H, s), 11.20 (1H, s)

Mass spectrometric value (ESI-MS) 585 (M-1)

Compound 868 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

25

The title compound 868 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.61 (2H, m), 1.72 (4H, m), 2.46 - 2.65  
30 (10H, m), 3.22 (4H, m), 3.63 (4H, m), 7.20 (1H, dd, J = 9.3 Hz, J = 2.7 Hz), 7.36 (1H, d, J = 2.7 Hz), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.55 (1H, d, J = 7.8 Hz), 7.65 (1H, d, J = 8.3 Hz), 7.86 (1H, m), 7.93 (1H, m), 8.00 (1H, d, J = 8.3 Hz), 8.26 (1H, s), 8.32 (1H, d, J = 9.3 Hz), 8.36 (1H, s)

35 Mass spectrometric value (ESI-MS) 669 (M-1)

Compound 869 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[2-(4-



methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 869 was produced in substantially the same manner as in Example F.

5 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.37 (2H, m), 1.48 (4H, m), 2.56 (10H, m), 2.93 (4H, m), 3.61 (4H, m), 3.84 (3H, s), 6.90 - 7.04 (4H, m), 7.44 (1H, dd, J = 7.4 Hz, J = 7.4 Hz), 7.51 (1H, d, J = 7.4 Hz), 7.76 (2H, d, J = 8.3 Hz), 7.89 (1H, d, J = 7.6 Hz), 7.98 (1H, s), 8.23 (1H, m), 8.38 (1H, m), 11.21 (1H, s)

10 Mass spectrometric value (ESI-MS) 597 (M-1)

Compound 870 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 870 was produced in substantially the same manner as in Example F.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.32 (2H, m), 1.43 (4H, m), 1.63 (2H, m), 1.90 (2H, m), 2.29 (8H, m), 2.80 (2H, m), 2.88 (4H, m), 3.63 (2H, s), 3.72 (1H, m), 6.91 (1H, d, J = 8.8 Hz), 7.02 (1H, s), 7.15 (1H, d, J = 7.8 Hz), 7.35 - 7.55 (3H, m), 7.65 (1H, m), 7.90 (1H, d, J = 7.3 Hz), 7.97 (1H, s), 8.18 (1H, d, J = 9.3 Hz), 8.44 (1H, s), 10.79 (1H, s), 11.24 (1H, s)

20 Mass spectrometric value (ESI-MS) 566 (M-1)

Compound 871 3-(4-Hydroxy-piperidin-1-ylmethyl)-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 871 was produced in substantially the same manner as in Example F.

25 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.26 (2H, m), 1.40 (4H, m), 1.64 (2H, m), 1.89 (2H, m), 2.26 (2H, m), 2.35 (3H, s), 2.82 (6H, m), 3.63 (2H, s), 3.71 (1H, m), 6.89 (1H, d, J = 8.6 Hz), 7.04 (1H, s), 7.18 (2H, d, J = 7.8 Hz), 7.43 (1H, m), 7.53 (1H, m), 7.69 (2H, d, J = 7.6 Hz), 7.90 (1H, d, J = 7.3 Hz), 7.97 (1H, s), 8.17 (1H, d, J = 8.6 Hz), 8.47 (1H, s), 10.98 (1H, s),  
30 11.26 (1H, s)

Mass spectrometric value (ESI-MS) 552 (M-1)

Compound 872 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 872 was produced in substantially the same manner as in Example F.

35 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.32 (2H, m), 1.42 (4H, m), 1.66 (2H, m),

1.92 (2H, m), 2.40 (2H, m), 2.88 (6H, m), 3.71 (2H, s), 3.76 (1H, m), 6.90 (1H, d, J = 8.8 Hz), 6.98 - 7.11 (2H, m), 7.43 (1H, m), 7.54 (1H, m), 7.77 (2H, m), 7.89 (1H, d, J = 7.6 Hz), 7.96 (1H, s), 8.05 (1H, m), 8.15 (1H, d, J = 9.0 Hz), 8.47 (1H, s), 11.10 - 11.30 (2H, m)

5 Mass spectrometric value (ESI-MS) 556 (M-1)

Compound 873 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

The title compound 873 was produced in substantially the same manner as in Example F.

10 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.34 (2H, m), 1.44 (4H, m), 1.67 (2H, m), 1.94 (2H, m), 2.34 (2H, m), 2.88 (6H, m), 3.70 (2H, s), 3.77 (1H, m), 6.92 (1H, d, J = 8.3 Hz), 7.09 (3H, m), 7.29 - 7.67 (4H, m), 7.90 (1H, d, J = 7.8 Hz), 7.97 (1H, s), 8.14 (1H, d, J = 9.0 Hz), 8.49 (1H, s), 11.02 (1H, s), 11.17 (1H, s)

15 Mass spectrometric value (ESI-MS) 556 (M-1)

Compound 874 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(4-hydroxy-piperidin-1-ylmethyl)-benzamide

20 The title compound 874 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.50 - 1.68 (4H, m), 1.75 (4H, m), 1.84 (2H, m), 2.22 (2H, m), 2.81 (2H, m), 3.24 (4H, t, J = 5.2 Hz), 3.61 (3H, m), 7.22 (1H, dd, J = 9.0 Hz, J = 2.7 Hz), 7.37 (1H, d, J = 2.7 Hz), 7.50 (1H, m), 7.57 (1H, m), 7.67 (1H, d, J = 8.3 Hz), 7.87 (1H, d, J = 7.8 Hz), 25 7.92 (1H, s), 8.03 (1H, d, J = 8.3 Hz), 8.29 (1H, s), 8.33 (1H, d, J = 9.0 Hz), 8.37 (1H, s)

Mass spectrometric value (ESI-MS) 640 (M-1)

Compound 875 3-(4-Hydroxy-piperidin-1-ylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

30 The title compound 875 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.34 (2H, m), 1.45 (4H, m), 1.64 (2H, m), 1.90 (2H, m), 2.25 (2H, m), 2.79 (2H, m), 2.91 (4H, m), 3.63 (2H, s), 3.72 (1H, m), 3.83 (3H, m), 6.92 (3H, m), 7.64 (1H, s), 7.33 - 7.50 (1H, m), 35 7.53 (1H, d, J = 7.6 Hz), 7.75 (2H, d, J = 8.3 Hz), 7.89 (1H, d, J = 7.6 Hz), 7.96 (1H, s), 8.22 (1H, d, J = 8.8 Hz), 8.42 (1H, s), 10.68 (1H, bs), 11.25

(1H, s)

Mass spectrometric value (ESI-MS) 568 (M-1)

Compound 876 3-(2-Diethylamino-ethylsulfanylmethyl)-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-

5 benzamide

The title compound 876 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.1 Hz), 1.33 (2H, m), 1.44 (4H, m), 2.29 (6H, m), 2.59 (6H, m), 2.71 (2H, m), 2.90 (4H, m), 3.84 (2H, s), 6.92 (1H, d, J = 8.8 Hz), 7.10 (1H, s), 7.16 (1H, d, J = 7.6 Hz), 7.44 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.53 (2H, m), 7.66 (1H, m), 7.89 (1H, d, J = 7.6 Hz), 8.00 (1H, s), 8.18 (1H, d, J = 8.8 Hz), 8.44 (1H, s), 10.73 (1H, bs), 11.26 (1H, s)

Mass spectrometric value (ESI-MS) 598 (M-1)

15 Compound 877 3-(2-Diethylamino-ethylsulfanylmethyl)-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 877 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.08 (6H, t, J = 7.0 Hz), 1.36 (2H, m), 1.46 (4H, m), 2.74 (6H, m), 2.84 (2H, m), 2.92 (4H, m), 3.83 (2H, s), 6.94 (1H, d, J = 8.3 Hz), 7.05 (2H, m), 7.42 (1H, d, J = 7.7 Hz, J = 7.7 Hz), 7.52 (1H, m), 7.79 (2H, m), 7.88 (1H, d, J = 7.6 Hz), 7.98 (1H, s), 8.03 (1H, m), 8.17 (1H, d, J = 8.8 Hz), 8.47 (1H, s), 11.02 (1H, bs), 11.27 (1H, s)

Mass spectrometric value (ESI-MS) 588 (M-1)

25 Compound 878 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(2-diethylamino-ethylsulfanylmethyl)-benzamide

The title compound 878 was produced in substantially the same manner as in Example F.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, m), 1.29 (2H, m), 1.38 (4H, m), 2.48 - 2.75 (8H, m), 2.84 (4H, m), 3.85 (2H, s), 6.90 (2H, m), 7.47 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.56 (2H, m), 7.88 (1H, d, J = 7.8 Hz), 8.00 - 8.12 (4H, m), 8.60 (1H, s), 11.07 (2H, m)

Mass spectrometric value (ESI-MS) 672 (M-1)

35 Compound 879 3-(2-Diethylamino-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 879 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.02 (6H, t, J = 7.1 Hz), 1.26 (2H, m), 1.67 (4H, m), 2.59 (6H, m), 2.70 (2H, m), 2.92 (4H, m), 3.83 (5H, m), 6.92 (3H, m), 7.02 (1H, s), 7.44 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.53 (1H, d, J = 7.6 Hz), 7.77 (2H, d, J = 8.3 Hz), 7.88 (1H, d, J = 7.6 Hz), 7.99 (1H, m), 8.22 (1H, d, J = 8.8 Hz), 8.42 (1H, s), 10.59 (1H, bs), 11.27 (1H, s)

Mass spectrometric value (ESI-MS) 600 (M-1)

Compound 880 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 880 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.41 (2H, m), 1.51 (4H, m), 2.24 (3H, s), 2.67 (3H, s), 2.65 (2H, t, J = 6.9 Hz), 2.94 (4H, m), 3.82 (2H, s), 3.93 (1H, t, J = 6.8 Hz), 6.93 (1H, d, J = 9.0 Hz), 7.04 (1H, s), 7.14 (1H, d, J = 7.8 Hz), 7.52 (3H, m), 7.63 (1H, s), 7.80 (1H, s), 8.01 (1H, d, J = 6.8 Hz), 8.25 (1H, s), 8.28 (2H, d, J = 9.0 Hz), 10.56 (1H, s), 11.50 (1H, s)

Mass spectrometric value (ESI-MS) 543 (M-1)

Compound 881 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 881 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.43 (2H, m), 1.54 (4H, m), 2.33 (3H, s), 2.64 (2H, t, J = 7.1 Hz), 2.97 (4H, m), 3.82 (2H, s), 3.92 (2H, m), 6.95 (1H, m), 7.08 (1H, s), 7.19 (2H, d, J = 7.8 Hz), 7.54 (2H, m), 7.69 (2H, d, J = 7.8 Hz), 7.79 (1H, s), 8.00 (1H, d, J = 7.1 Hz), 8.26 (1H, s), 8.30 (1H, d, J = 9.3 Hz), 10.52 (1H, s), 11.49 (1H, s)

Mass spectrometric value (ESI-MS) 529 (M-1)

Compound 882 N-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 882 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.44 (2H, m), 1.57 (4H, m), 2.64 (2H, t, J = 7.0 Hz), 2.99 (4H, m), 3.81 (2H, s), 3.91 (2H, m), 7.00 (1H, d, J = 8.8 Hz), 7.10 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 7.15 (1H, s), 7.54 (2H, m), 7.78 (1H, s), 7.86 (2H, m), 8.06 (1H, d, J = 7.1 Hz), 8.33 (2H, m), 10.59 (1H,

s), 11.48 (1H, s)

Mass spectrometric value (ESI-MS) 533 (M-1)

Compound 883 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

5 The title compound 883 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.44 (2H, m), 1.57 (4H, m), 2.65 (2H, t, J = 6.9 Hz), 2.99 (4H, m), 3.82 (2H, s), 3.92 (2H, m), 6.80 - 7.22 (3H, m), 7.36 (1H, m), 7.53 (3H, m), 7.66 (1H, m), 7.80 (1H, s), 8.00 (1H, d, J = 6.6 Hz), 8.30 (2H, m), 10.65 (1H, s), 11.46 (1H, s)

Mass spectrometric value (ESI-MS) 533 (M-1)

Compound 884 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

15 The title compound 884 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.36 (2H, m), 1.44 (4H, m), 2.65 (2H, t, J = 7.2 Hz), 2.86 (4H, m), 3.82 (2H, s), 3.92 (2H, t, J = 7.1 Hz), 6.90 (1H, d, J = 8.0 Hz), 6.97 (1H, s), 7.57 (3H, m), 7.76 (1H, s), 8.04 (2H, d, J = 6.8 Hz), 8.14 (1H, d, J = 9.8 Hz), 8.23 (1H, s), 8.43 (1H, s), 11.09 (1H, s), 11.38 (1H, s)

Mass spectrometric value (ESI-MS) 617 (M-1)

Compound 885 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

25 The title compound 885 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.47 (2H, m), 1.62 (4H, m), 2.64 (2H, t, J = 7.1 Hz), 3.04 (4H, m), 3.80 (3H, s), 3.81 (2H, s), 3.92 (2H, m), 6.89 (2H, d, J = 8.8 Hz), 7.02 (1H, m), 7.24 (1H, m), 7.52 (2H, m), 7.76 (3H, m), 7.99 (1H, d, J = 7.3 Hz), 8.25 (1H, s), 8.40 (1H, d, J = 9.0 Hz), 10.50 (1H, s), 11.59 (1H, s)

Mass spectrometric value (ESI-MS) 545 (M-1)

Compound 886 3-{3-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenylcarbamoyl]-benzylsulfanyl}-propionic acid

35 The title compound 886 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.37 (2H, m), 1.52 (4H, m), 2.20 (6H, s), 2.75 (2H, m), 2.84 (2H, m), 2.94 (4H, m), 3.94 (2H, s), 6.93 (1H, d, J = 7.8 Hz), 7.06 (1H, d, J = 7.6 Hz), 7.11 (1H, s), 7.38 - 7.52 (3H, m), 7.55 (1H, s), 7.94 (1H, s), 8.02 (1H, d, J = 6.8 Hz), 8.25 (1H, d, J = 9.0 Hz), 8.28 (1H, s), 10.85 (1H, s), 11.36 (1H, s)

Mass spectrometric value (ESI-MS) 571 (M-1)

Compound 887 3-{3-[2-(4-Methyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenylcarbamoyl]-benzylsulfanyl}-propionic acid

The title compound 887 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.33 (2H, m), 1.47 (4H, m), 2.29 (3H, s), 2.70 (2H, t, J = 6.4 Hz), 2.80 (2H, t, J = 6.3 Hz), 2.90 (4H, m), 3.89 (2H, s), 6.91 (1H, d, J = 8.8 Hz), 7.12 (3H, m), 7.40 - 7.50 (2H, m), 7.61 (2H, d, J = 7.8 Hz), 7.93 (1H, s), 7.97 (1H, d, J = 7.3 Hz), 8.20 (1H, d, J = 9.0 Hz), 8.35 (1H, s), 11.03 (1H, s), 11.32 (1H, s)

Mass spectrometric value (ESI-MS) 557 (M-1)

Compound 888 3-{3-[2-(4-Fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenylcarbamoyl]-benzylsulfanyl}-propionic acid

The title compound 888 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.62 (2H, m), 1.74 (4H, m), 2.55 (2H, t, J = 6.8 Hz), 2.68 (2H, t, J = 7.0 Hz), 3.23 (4H, m), 3.86 (2H, s), 7.10 - 7.25 (3H, m), 7.36 (1H, d, J = 2.9 Hz), 7.47 (1H, dd, J = 7.1 Hz, J = 7.1 Hz), 7.57 (1H, d, J = 7.3 Hz), 7.85 (3H, m), 7.93 (1H, m), 8.32 (2H, m)

Mass spectrometric value (ESI-MS) 561 (M-1)

Compound 889 3-{3-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenylcarbamoyl]-benzylsulfanyl}-propionic acid

The title compound 889 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.62 (2H, m), 1.74 (4H, m), 2.54 (2H, t, J = 7.0 Hz), 2.68 (2H, t, J = 7.0 Hz), 3.22 (4H, m), 3.86 (2H, s), 7.22 (1H, m), 7.36 (1H, m), 7.48 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.57 (1H, m), 7.67 (1H, m), 7.83 (1H, d, J = 7.3 Hz), 7.93 (1H, s), 8.03 (1H, d, J = 9.0 Hz), 8.29 (2H, m), 8.36 (1H, m)

Mass spectrometric value (ESI-MS) 646 (M-1)

Compound 890 3-{3-[2-(4-Methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenylcarbamoyl]-benzylsulfanyl}-propionic acid

The title compound 890 was produced in substantially the same manner as in Example F.

5 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.35 (2H, m), 1.49 (4H, m), 2.71 (2H, m), 2.80 (2H, m), 2.92 (4H, m), 3.76 (3H, s), 3.89 (2H, s), 6.80 (2H, d, J = 8.8 Hz), 6.92 (1H, d, J = 7.3 Hz), 7.15 (1H, s), 7.45 (2H, m), 7.64 (2H, d, J = 8.6 Hz), 7.95 (2H, m), 8.24 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 10.97 (1H, bs), 11.37 (1H, s)

10 Mass spectrometric value (ESI-MS) 573 (M-1)

Compound 891 {3-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenylcarbamoyl]-benzylsulfanyl}-acetic acid

15 The title compound 891 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.63 (2H, m), 1.75 (4H, m), 3.11 (2H, s), 3.24 (4H, m), 3.94 (2H, s), 7.22 (1H, dd, J = 9.2 Hz, J = 2.8 Hz), 7.37 (1H, d, J = 2.7 Hz), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.58 (1H, d, J = 8.0 Hz), 7.67 (1H, d, J = 8.3 Hz), 7.84 (1H, d, J = 8.0 Hz), 7.95 (1H, s), 20 8.03 (1H, d, J = 8.6 Hz), 8.28 (2H, m), 8.37 (1H, s)

Mass spectrometric value (ESI-MS) 631 (M-1)

Compound 892 {3-[2-(4-Methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenylcarbamoyl]-benzylsulfanyl}-acetic acid

25 The title compound 892 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.39 (2H, m), 1.53 (4H, m), 2.93 (4H, m), 3.21 (2H, s), 3.77 (3H, s), 3.98 (2H, s), 6.82 (2H, d, J = 8.6 Hz), 6.93 (1H, d, J = 9.3 Hz), 7.22 (1H, s), 7.48 (2H, m), 7.63 (2H, d, J = 8.3 Hz), 7.82 (1H, s), 7.98 (1H, d, J = 7.1 Hz), 8.25 (1H, d, J = 8.8 Hz), 8.32 (1H, s), 30 10.93 (1H, s), 11.43 (1H, s)

Mass spectrometric value (ESI-MS) 559 (M-1)

Compound 893 3-(7,8-Dihydro-5H-1,6,9-triaza-anthracen-6-ylmethyl)-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

35 The title compound 893 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.32 (2H, m), 1.40 (4H, m), 2.22 (6H, s), 2.83 (4H, m), 2.97 (2H, t, J = 5.7 Hz), 3.31 (2H, t, J = 6.0 Hz), 3.84 (4H, s), 6.92 (1H, d, J = 9.0 Hz), 7.09 (2H, m), 7.35 (1H, m), 7.45 (2H, m), 7.61 (2H, m), 7.77 (1H, s), 7.95 (1H, d, J = 7.3 Hz), 8.02 (2H, m), 8.26 (1H, d, J = 9.0 Hz), 8.49 (1H, s), 8.97 (1H, dd, J = 4.3 Hz, J = 1.8 Hz), 11.05 (1H, s), 11.41 (1H, s)

Mass spectrometric value (ESI-MS) 650 (M-1)

Compound 894 3-(7,8-Dihydro-5H-1,6,9-triaza-anthracen-6-ylmethyl)-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 894 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.31 (2H, m), 1.39 (4H, m), 2.33 (3H, s), 2.82 (4H, m), 2.97 (2H, m), 3.31 (2H, t, J = 6.0 Hz), 3.84 (4H, m), 6.92 (1H, d, J = 8.1 Hz), 7.07 (1H, s), 7.15 (2H, d, J = 8.1 Hz), 7.35 (1H, m), 7.47 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.60 (1H, d, J = 7.3 Hz), 7.65 (2H, d, J = 7.1 Hz), 7.77 (1H, s), 7.94 (1H, d, J = 7.3 Hz), 8.02 (2H, m), 8.26 (1H, d, J = 9.0 Hz), 8.52 (1H, s), 8.97 (1H, dd, J = 4.3 Hz, J = 1.8 Hz), 11.08 (1H, s), 11.39 (1H, s)

Mass spectrometric value (ESI-MS) 636 (M-1)

Compound 895 3-(7,8-Dihydro-5H-1,6,9-triaza-anthracen-6-ylmethyl)-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 895 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.20 - 1.40 (6H, m), 2.75 (4H, m), 2.94 (2H, m), 3.25 (2H, m), 3.82 (2H, s), 3.83 (2H, s), 6.89 (1H, d, J = 8.8 Hz), 7.00 (2H, m), 7.10 (1H, s), 7.37 (1H, m), 7.46 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.59 (1H, d, J = 7.3 Hz), 7.70 (2H, m), 7.77 (1H, s), 7.94 (1H, d, J = 7.8 Hz), 8.04 (2H, m), 8.26 (1H, d, J = 9.0 Hz), 8.61 (1H, s), 8.94 (1H, m), 11.45 - 11.75 (2H, m)

Mass spectrometric value (ESI-MS) 640 (M-1)

Compound 896 3-(7,8-Dihydro-5H-1,6,9-triaza-anthracen-6-ylmethyl)-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 896 was produced in substantially the same



manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.29 (2H, m), 1.36 (4H, m), 2.79 (4H, m), 2.97 (2H, m), 3.28 (2H, t, J = 6.0 Hz), 3.84 (2H, s), 3.85 (2H, s), 6.90 (1H, d, J = 8.3 Hz), 7.03 (1H, m), 7.09 (1H, s), 7.28 - 8.00 (5H, m), 7.61 (1H, d, J = 7.3 Hz), 7.77 (1H, s), 7.94 (1H, d, J = 7.6 Hz), 8.05 (2H, m), 8.22 (1H, d, J = 9.0 Hz), 8.60 (1H, s), 8.97 (1H, dd, J = 4.1 Hz, J = 2.0 Hz), 11.38 (1H, s), 11.55 (1H, s)

Mass spectrometric value (ESI-MS) 640 (M-1)

Compound 897 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(7,8-dihydro-5H-1,6,9-triaza-anthracen-6-ylmethyl)-benzamide

The title compound 897 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.30 (2H, m), 1.37 (4H, m), 2.80 (4H, m), 2.97 (2H, t, J = 5.9 Hz), 3.30 (2H, t, J = 5.9 Hz), 3.86 (4H, m), 6.90 (1H, d, J = 8.3 Hz), 7.02 (1H, s), 7.38 (1H, m), 7.51 (2H, d, J = 8.3 Hz), 7.62 (1H, d, J = 8.3 Hz), 7.78 (1H, s), 7.94 (2H, d, J = 7.3 Hz), 8.00 (1H, s), 8.06 (2H, m), 8.17 (1H, d, J = 8.3 Hz), 8.61 (1H, s), 8.98 (1H, m), 11.25 (1H, s), 11.46 (1H, s)

Mass spectrometric value (ESI-MS) 724 (M-1)

Compound 898 3-(7,8-Dihydro-5H-1,6,9-triaza-anthracen-6-ylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 898 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.31 (2H, m), 1.39 (4H, m), 2.83 (4H, m), 2.97 (2H, m), 3.30 (2H, t, J = 5.6 Hz), 3.78 (5H, m), 3.83 (2H, s), 6.85 (2H, d, J = 8.0 Hz), 6.92 (1H, d, J = 7.1 Hz), 7.09 (1H, s), 7.35 (1H, m), 7.46 (1H, t, J = 7.7 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.67 (2H, d, J = 7.8 Hz), 7.76 (1H, s), 7.94 (1H, d, J = 7.6 Hz), 8.02 (2H, m), 8.28 (1H, d, J = 9.0 Hz), 8.49 (1H, s), 8.96 (1H, m), 11.08 (1H, bs), 11.44 (1H, s)

Mass spectrometric value (ESI-MS) 652 (M-1)

Compound 899 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 899 was produced in substantially the same

manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.62 (2H, m), 1.75 (4H, m), 2.29 (3H, s), 2.31 (3H, s), 2.50 (1H, m), 2.63 (1H, m), 3.23 (4H, m), 3.56 (2H, m), 3.74 (1H, m), 3.88 (2H, s), 7.21 (2H, m), 7.37 (1H, d, J = 2.9 Hz), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.53 (1H, d, J = 7.8 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.65 (1H, s), 7.85 (1H, m), 7.93 (1H, m), 8.29 (1H, s), 8.37 (1H, d, J = 9.2 Hz)

Mass spectrometric value (ESI-MS) 573 (M-1)

Compound 900 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 900 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 1.57 (2H, m), 1.67 (4H, m), 2.35 (3H, s), 2.40 (1H, m), 2.58 (1H, m), 3.15 - 3.36 (6H, m), 3.60 (1H, m), 3.86 (2H, s), 4.55 (1H, m), 4.81 (1H, m), 7.19 (1H, m), 7.28 (2H, d, J = 8.1 Hz), 7.32 (1H, d, J = 2.4 Hz), 7.53 (2H, m), 7.65 (2H, d, J = 8.1 Hz), 7.77 (1H, m), 7.87 (1H, s), 8.29 (1H, d, J = 8.3 Hz), 8.41 (1H, s), 11.42 (1H, bs), 11.95 (1H, bs)

Mass spectrometric value (ESI-MS) 559 (M-1)

Compound 901 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 901 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.62 (2H, m), 1.74 (4H, m), 2.50 (1H, m), 2.62 (1H, m), 3.23 (4H, m), 3.55 (2H, m), 3.75 (1H, m), 3.88 (2H, s), 7.17 (2H, dd, J = 8.7 Hz, J = 8.7 Hz), 7.22 (1H, dd, J = 9.0 Hz, J = 2.7 Hz), 7.37 (1H, d, J = 2.7 Hz), 7.48 (1H, dd, J = 7.5 Hz, J = 7.5 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.80 - 7.95 (4H, m), 8.34 (1H, s), 8.37 (1H, d, J = 9.3 Hz)

Mass spectrometric value (ESI-MS) 563 (M-1)

Compound 902 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 902 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 1.57 (2H, m), 1.67 (4H, m), 2.04 (1H, m), 2.58 (1H, m), 3.19 - 3.40 (6H, m), 3.60 (1H, m), 3.86 (2H, s), 4.54 (1H, t, J = 5.7 Hz), 4.80 (1H, d, J = 3.5 Hz), 7.20 (1H, m), 7.29 (2H, m),

7.44 - 7.64 (5H, m), 7.76 (1H, d, J = 7.6 Hz), 7.87 (1H, s), 8.25 (1H, d, J = 9.0 Hz), 8.44 (1H, s), 11.30 (1H, s), 12.10 (1H, s)

Mass spectrometric value (ESI-MS) 563 (M-1)

Compound 903 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3-(2,3-dihydroxy-propyl-sulfanylmethyl)-benzamide

The title compound 903 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.63 (2H, m), 1.75 (4H, m), 2.50 (1H, m), 2.62 (1H, m), 3.24 (4H, m), 3.54 (2H, m), 3.74 (1H, m), 3.88 (2H, s), 7.23 (1H, dd, J = 9.1 Hz, J = 2.8 Hz), 7.38 (1H, d, J = 2.7 Hz), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.58 (1H, d, J = 7.8 Hz), 7.68 (1H, d, J = 8.3 Hz), 7.84 (1H, d, J = 7.8 Hz), 7.93 (1H, s), 8.06 (1H, d, J = 8.3 Hz), 8.29 (1H, s), 8.34 (1H, d, J = 9.0 Hz), 8.37 (1H, s)

Mass spectrometric value (ESI-MS) 647 (M-1)

Compound 904 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 904 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 1.57 (2H, m), 1.68 (4H, m), 2.40 (1H, m), 2.58 (1H, m), 3.15 - 3.40 (6H, m), 3.61 (1H, m), 3.82 (3H, s), 3.86 (2H, s), 7.02 (2H, d, J = 8.8 Hz), 7.21 (1H, m), 7.33 (1H, m), 7.53 (2H, m), 7.70 (2H, d, J = 8.8 Hz), 7.77 (1H, d, J = 7.6 Hz), 7.87 (1H, s), 8.31 (1H, d, J = 9.0 Hz), 8.39 (1H, s), 11.44 (1H, s), 11.87 (1H, s)

Mass spectrometric value (ESI-MS) 575 (M-1)

Compound 905 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 905 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.99 (12H, t, J = 7.1 Hz), 1.44 (2H, m), 1.57 (4H, m), 2.30 (6H, s), 2.50 (8H, m), 2.61 (8H, m), 3.00 (4H, m), 3.73 (2H, s), 7.02 (2H, m), 7.18 (1H, d, J = 7.3 Hz), 7.42 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.51 (1H, m), 7.57 (1H, m), 7.67 (1H, s), 7.87 (1H, d, J = 7.8 Hz), 7.97 (1H, s), 8.32 (2H, m), 11.14 (1H, s)

Mass spectrometric value (ESI-MS) 681 (M-1)

Compound 906 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 906 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.00 (12H, t, J = 7.2 Hz), 1.25 (2H, m), 1.34 (4H, m), 2.37 (3H, s), 2.51 (8H, m), 2.62 (8H, m), 2.80 (4H, m), 3.75 (2H, s), 6.85 (1H, m), 6.97 (1H, m), 7.20 (2H, d, J = 8.0 Hz), 7.43 (1H, d, J = 7.6 Hz), 7.59 (1H, d, J = 7.3 Hz), 7.75 (2H, d, J = 7.8 Hz), 7.86 (1H, d, J = 7.8 Hz), 8.00 (1H, s), 8.08 (1H, d, J = 9.0 Hz), 8.59 (1H, s), 11.20 (1H, s)

Mass spectrometric value (ESI-MS) 667 (M-1)

Compound 907 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 907 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.00 (12H, t, J = 7.1 Hz), 1.26 (2H, m), 1.35 (4H, m), 2.51 (8H, m), 2.62 (8H, m), 2.81 (4H, m), 3.75 (2H, s), 6.85 (1H, d, J = 9.0 Hz), 6.94 (1H, s), 7.10 (2H, dd, J = 8.5 Hz, J = 8.5 Hz), 7.44 (1H, d, J = 7.6 Hz, J = 7.6 Hz), 7.60 (1H, d, J = 7.3 Hz), 7.85 (3H, m), 8.00 (1H, s), 8.03 (1H, d, J = 9.0 Hz), 8.61 (1H, s), 11.14 (2H, m)

Mass spectrometric value (ESI-MS) 671 (M-1)

Compound 908 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 908 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.00 (12H, t, J = 7.1 Hz), 1.24 (2H, m), 1.33 (4H, m), 2.51 (8H, m), 2.62 (8H, m), 2.78 (4H, m), 3.76 (2H, s), 6.84 (1H, d, J = 9.3 Hz), 6.91 (1H, s), 7.11 (1H, m), 7.34 - 7.48 (2H, m), 7.58 - 7.68 (3H, m), 7.87 (1H, d, J = 7.8 Hz), 8.00 (2H, m), 8.61 (1H, s)

Mass spectrometric value (ESI-MS) 671 (M-1)

Compound 909 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 909 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.00 (12H, t, J = 7.1 Hz), 1.21 (2H, m), 1.30 (4H, m), 2.51 (8H, m), 2.62 (8H, m), 2.75 (4H, m), 3.77 (2H, s), 6.80 (1H, d, J = 8.8 Hz), 6.88 (1H, s), 7.47 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (1H, d, J = 8.5 Hz), 7.64 (1H, d, J = 7.6 Hz), 7.86 (1H, d, J = 7.6 Hz), 7.91 (1H, d, J = 9.0 Hz), 8.02 (1H, s), 8.08 (1H, d, J = 8.0 Hz), 8.12 (1H, s), 8.67 (1H, s)

Mass spectrometric value (ESI-MS) 754 (M-1)

10 Compound 910 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 910 was produced in substantially the same manner as in Example F.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.00 (12H, t, J = 7.1 Hz), 1.28 (2H, m), 1.38 (4H, m), 2.51 (8H, m), 2.61 (8H, m), 2.83 (4H, m), 3.75 (2H, s), 3.84 (3H, s), 6.85 - 7.00 (4H, m), 7.43 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.79 (2H, d, J = 8.5 Hz), 7.86 (1H, d, J = 7.6 Hz), 7.99 (1H, s), 8.12 (1H, d, J = 9.3 Hz), 8.51 (1H, s), 11.19 (1H, s)

20 Mass spectrometric value (ESI-MS) 682 (M-1)

#### Example G

Compound 911 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-dipropylamino-phenyl]-3-[[2-(2-diethylamino-ethyl)-methyl-amino]-methyl]-benzamide

25 5-Amino-2-nitro-benzoic acid methyl ester (compound A') (800 mg) was dissolved in dry THF (15 ml). Propionaldehyde (compound D) (870 μl) dissolved in a mixed liquid composed of 3 M sulfuric acid (4 ml) and THF (1 ml) was added to the solution at room temperature. Subsequently, sodium borohydride (231 mg) was added thereto at 0°C, and the mixture was stirred at room temperature for 3 hr. Thereafter, distilled water was added thereto, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate and was then concentrated. The residue was purified by column chromatography using a hexane-acetone system to give 2-nitro-5-propylamino-benzoic acid methyl ester as a useful intermediate (608 mg, yield 63%).

2-Nitro-5-propylamino-benzoic acid methyl ester (608 mg) produced by the above reaction was dissolved in dry THF (15 ml). Propionaldehyde (compound D) (461  $\mu$ l) dissolved in a mixed liquid composed of 3 M sulfuric acid (2.1 ml) and THF (1 ml) was added to the solution at room temperature. Subsequently, sodium borohydride (145 mg) was added thereto at 0°C, and the mixture was stirred at room temperature for 3 hr. Thereafter, distilled water was added thereto, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography using a hexane-acetone system to give 5-dipropylamino-2-nitro-benzoic acid methyl ester as a useful intermediate (149 mg, yield 21%).

5-Dipropylamino-2-nitro-benzoic acid methyl ester (467 mg) produced by the above reaction was dissolved in ethanol (5 ml), and 10% palladium-carbon (45 mg) was added to the solution. The air in the reaction system was then replaced by hydrogen, and the reaction solution was stirred at room temperature for 15 hr. After the completion of the reaction, the reaction solution was filtered through Celite. The filtrate was concentrated, and the residue was purified by column chromatography using a hexane-acetone system to give 2-amino-5-dipropylamino-benzoic acid methyl ester (compound A) (243 mg, yield 58%) as a useful intermediate.

2-Amino-5-dipropylamino-benzoic acid methyl ester (compound A) (243 mg) produced by the above reaction was dissolved in anhydrous methylene chloride (3.0 ml). Subsequently, pyridine (170  $\mu$ l) and 3-(chloromethyl)benzoyl chloride (compound B) (166  $\mu$ l) were added to the solution at 0°C, and the mixture was stirred at 0°C for one hr. After the completion of the reaction, distilled water was added thereto, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography using a hexane-acetone system to give 2-(3-chloromethyl-benzoylamino)-5-dipropylamino-benzoic acid methyl ester as a useful intermediate (280 mg, yield 64%).

2-(3-Chloromethyl-benzoylamino)-5-dipropylamino-benzoic acid

methyl ester (280 mg) produced by the above reaction was dissolved in anhydrous methylene chloride (2.0 ml). Triethylamine (45  $\mu$ l) and N,N-diethyl-N'-methylethylenediamine (compound B') (50  $\mu$ l) were added to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated, and the residue was purified by column chromatography using a hexane-acetone system to give 2-(3-[(2-diethylamino-ethyl)-methyl-amino]-methyl)-benzoylamino)-5-dipropylamino-benzoic acid methyl ester as a useful intermediate (164 mg, yield 50%).

2-(3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl)-benzoylamino)-5-dipropylamino-benzoic acid methyl ester (164 mg) produced by the above reaction was dissolved in ethanol (5.0 ml). Hydrazine monohydrate (200  $\mu$ l) was added to the solution, and the mixture was heated under reflux with stirring for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-[(2-diethylamino-ethyl)-methyl-amino]-methyl)-N-(4-dipropylamino-2-hydrazinocarbonyl-phenyl)-benzamide as a hydrazine compound (96 mg, yield 58%).

3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl)-N-(4-dipropylamino-2-hydrazinocarbonyl-phenyl)-benzamide (47 mg) as the hydrazine compound produced by the above reaction was dissolved in anhydrous toluene (1.0 ml). 3-Trifluoromethyl-4-chlorobenzaldehyde (compound C) (40  $\mu$ l) was added to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, the reaction product was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 911 (57 mg, yield 88%).

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz):  $\delta$  0.78 (6H, t, J = 7.1 Hz), 1.04 (6H, t, J = 7.1 Hz), 1.37 (4H, m), 2.26 (3H, s), 2.50 - 2.75 (8H, m), 2.85 (4H, m), 3.62

(2H, s), 6.49 (1H, d, J = 7.8 Hz), 6.65 (1H, s), 7.44 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.55 (2H, m), 7.80 - 8.15 (5H, m), 8.63 (1H, s), 10.83 (1H, s)  
Mass spectrometric value (ESI-MS) 685 (M-1)

Compound 912 3-([(2-Diethylamino-ethyl)-methyl-amino]-methyl)-N-[4-dipropylamino-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 912 was produced in substantially the same manner as in Example G.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.81 (6H, t, J = 7.1 Hz), 1.05 (6H, t, J = 7.1 Hz), 1.42 (4H, m), 2.24 (3H, s), 2.50 - 2.70 (8H, m), 2.95 (4H, m), 3.61 (2H, s), 3.83 (3H, s), 6.57 (1H, d, J = 9.0 Hz), 6.72 (1H, s), 6.91 (2H, d, J = 8.6 Hz), 7.41 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.52 (1H, d, J = 7.3 Hz), 7.76 (2H, d, J = 8.3 Hz), 7.85 (1H, d, J = 7.6 Hz), 7.95 (1H, s), 8.05 (1H, d, J = 9.0 Hz), 8.45 (1H, s), 10.93 (1H, s)

Mass spectrometric value (ESI-MS) 614 (M-1)

Compound 913 3-({2-[Bis-(2-hydroxy-ethyl)-amino]-ethylamino}-methyl)-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 913 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.41 (2H, m), 1.52 (4H, m), 2.25 (6H, s), 2.61 (4H, m), 2.71 (2H, m), 2.77 (2H, m), 2.97 (4H, m), 3.58 (4H, t, J = 4.8 Hz), 3.92 (2H, s), 6.94 (1H, m), 7.07 (1H, s), 7.13 (1H, d, J = 7.8 Hz), 7.40 - 7.55 (3H, m), 7.60 (1H, s), 7.93 (2H, m), 8.22 (1H, d, J = 8.3 Hz), 8.38 (1H, s), 11.20 (1H, s)

Mass spectrometric value (ESI-MS) 613 (M-1)

Compound 914 3-({2-[Bis-(2-hydroxy-ethyl)-amino]-ethylamino}-methyl)-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 914 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.44 (2H, m), 1.54 (4H, m), 2.60 (4H, m), 2.73 (2H, m), 2.86 (2H, m), 3.00 (4H, m), 3.56 (4H, m), 3.97 (2H, m), 6.90 (1H, m), 7.10 (1H, m), 7.73 - 7.55 (4H, m), 7.92 (2H, m), 8.02 (1H, m), 8.15 (1H, m), 8.60 (1H, s)

Mass spectrometric value (ESI-MS) 687 (M-1)



Compound 915 3-({2-[Bis-(2-hydroxy-ethyl)-amino]-ethylamino}-methyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 915 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.40 (2H, m), 1.51 (4H, m), 2.61 (4H, m), 2.70 (2H, m), 2.76 (2H, m), 2.96 (4H, m), 3.58 (4H, m), 3.81 (3H, s), 3.90 (2H, s), 6.88 (2H, d, J = 8.1 Hz), 6.93 (1H, m), 7.07 (1H, s), 7.43 (1H, m), 7.50 (1H, m), 7.72 (2H, d, J = 8.3 Hz), 7.92 (2H, m), 8.22 (1H, m), 8.36 (1H, s), 11.22 (1H, bs)

Mass spectrometric value (ESI-MS) 615 (M-1)

Compound 916 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-pyrrolidin-1-yl-phenyl]-benzamide

The title compound 916 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.06 (6H, t, J = 7.1 Hz), 1.99 (4H, m), 2.26 (9H, m), 2.58 (2H, m), 2.70 (4H, m), 2.82 (2H, m), 3.30 (4H, m), 3.63 (2H, s), 6.75 (1H, dd, J = 9.2 Hz, J = 2.8 Hz), 6.90 (1H, d, J = 2.7 Hz), 7.14 (1H, d, J = 7.8 Hz), 7.47 (2H, m), 7.54 (1H, d, J = 7.8 Hz), 7.57 (1H, s), 7.85 (1H, d, J = 7.8 Hz), 7.92 (1H, s), 8.24 (1H, d, J = 9.0 Hz), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 581 (M-1)

Compound 917 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-pyrrolidin-1-yl-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl-benzamide

The title compound 917 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.02 (6H, t, J = 7.2 Hz), 1.99 (4H, m), 2.25 (3H, s), 2.57 (6H, m), 2.70 (2H, m), 3.30 (4H, m), 3.62 (2H, s), 6.74 (1H, dd, J = 9.0 Hz, J = 2.7 Hz), 6.89 (1H, d, J = 2.7 Hz), 7.47 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.54 (1H, d, J = 7.6 Hz), 7.60 (1H, d, J = 8.3 Hz), 7.84 (1H, d, J = 7.6 Hz), 7.93 (2H, m), 8.18 (1H, d, J = 9.0 Hz), 8.23 (1H, m), 8.35 (1H, s)

Mass spectrometric value (ESI-MS) 655 (M-1)

Compound 918 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[2-(4-

methoxy-benzylidene-hydrazinocarbonyl)-4-pyrrolidin-1-yl-phenyl]-benzamide

The title compound 918 was produced in substantially the same manner as in Example F.

5 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.04 (6H, t, J = 7.2 Hz), 2.00 (4H, m), 2.26 (3H, s), 2.52 - 2.68 (6H, m), 2.75 (2H, m), 3.31 (4H, m), 3.64 (2H, s), 3.81 (3H, s), 6.75 (1H, dd, J = 9.0 Hz, J = 2.7 Hz), 6.89 (1H, d, J = 2.7 Hz), 6.93 (2H, d, J = 8.8 Hz), 7.47 (1H, t, J = 7.7 Hz), 7.54 (1H, d, J = 7.3 Hz), 7.73 (2H, d, J = 9.0 Hz), 7.85 (1H, m), 7.91 (1H, s), 8.25 (1H, d, J =  
10 9.0 Hz), 8.28 (1H, s)

Mass spectrometric value (ESI-MS) 583 (M-1)

Compound 919 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-pyrrolidin-1-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

15 The title compound 919 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.06 (4H, m), 2.29 (3H, s), 2.31 (3H, s), 2.57 (2H, t, J = 7.0 Hz), 3.37 (4H, m), 3.68 (2H, t, J = 6.8 Hz), 3.85 (2H, s), 6.81 (1H, d, J = 8.1 Hz), 6.93 (1H, s), 7.02 - 7.23 (2H, m), 7.45 - 7.59 (2H, m), 7.64 (1H, s), 7.84 (1H, d, J = 7.3 Hz), 7.90 (1H, s), 8.26 (2H, m)

20 Mass spectrometric value (ESI-MS) 529 (M-1)

Compound 920 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-pyrrolidin-1-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

25 The title compound 920 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.07 (4H, m), 2.57 (2H, t, J = 7.0 Hz), 3.38 (4H, m), 3.68 (2H, t, J = 6.8 Hz), 3.85 (2H, s), 6.83 (1H, m), 6.94 (1H, m), 7.48 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (1H, d, J = 7.3 Hz), 7.67 (1H, d, J = 8.3 Hz), 7.83 (1H, d, J = 7.6 Hz), 7.90 (1H, s), 8.04 (1H, d, J = 8.0 Hz), 8.22 (1H, d, J = 9.0 Hz), 8.32 (1H, s), 8.36 (1H, s)

30 Mass spectrometric value (ESI-MS) 603 (M-1)

Compound 921 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-pyrrolidin-1-yl-phenyl]-benzamide

35 The title compound 921 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.05 (4H, m), 2.57 (2H, t, J = 7.0 Hz),

3.36 (4H, m), 3.68 (2H, t, J = 6.8 Hz), 3.84 (5H, m), 6.81 (1H, d, J = 8.8 Hz), 6.93 (1H, s), 6.97 (2H, d, J = 9.0 Hz), 7.47 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (1H, d, J = 7.3 Hz), 7.77 (2H, d, J = 8.8 Hz), 7.83 (1H, d, J = 7.2 Hz), 7.90 (1H, s), 8.24 (1H, d, J = 9.0 Hz), 8.27 (1H, s)

5 Mass spectrometric value (ESI-MS) 531 (M-1)

Compound 922 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(4-methyl-[1,4]diazepan-1-yl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

10 The title compound 922 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.1 Hz), 1.67 (2H, m), 2.20 - 2.80 (18H, m), 3.04 (2H, m), 3.11 (2H, m), 3.63 (2H, s), 6.57 (1H, d, J = 8.6 Hz), 6.64 (1H, s), 7.46 (1H, m), 7.57 (2H, m), 7.78 (1H, d, J = 7.8 Hz), 7.94 (1H, d, J = 8.8 Hz), 8.00 (1H, s), 8.08 (1H, d, J = 7.8 Hz), 8.13 (1H, s), 8.64 (1H, s), 10.87 (1H, s)

15 Mass spectrometric value (ESI-MS) 698, 699 (M-1)

Compound 923 N-{2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-[4-(2-hydroxy-ethyl)-piperazin-1-yl]-phenyl}-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

20 The title compound 923 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.57 (2H, t, J = 7.0 Hz), 2.60 (2H, t, J = 6.0 Hz), 2.72 (4H, m), 3.31 (4H, m), 3.68 (2H, t, J = 7.0 Hz), 3.73 (2H, t, J = 6.0 Hz), 3.85 (2H, s), 7.23 (1H, dd, J = 9.0 Hz, J = 2.7 Hz), 7.38 (1H, d, J = 2.7 Hz), 7.48 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.58 (1H, d, J = 7.8 Hz), 7.67 (1H, d, J = 8.6 Hz), 7.84 (1H, d, J = 7.6 Hz), 7.91 (1H, s), 8.02 (1H, d, J = 8.6 Hz), 8.31 (1H, m), 8.37 (2H, m)

25 Mass spectrometric value (ESI-MS) 662 (M-1)

Compound 924 N-{2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-[4-(2-hydroxy-ethyl)-piperazin-1-yl]-phenyl}-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

30 The title compound 924 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.01 (6H, t, J = 7.2 Hz), 2.26 (3H, s), 2.58 (8H, m), 2.70 (6H, m), 3.32 (4H, m), 3.64 (2H, s), 3.73 (2H, t, J = 5.9 Hz), 7.22 (1H, dd, J = 9.0 Hz, J = 2.7 Hz), 7.39 (1H, d, J = 2.7 Hz), 7.49 (1H,

dd, J = 7.7 Hz, J = 7.7 Hz), 7.57 (1H, d, J = 7.6 Hz), 7.65 (1H, d, J = 8.5 Hz), 7.87 (1H, m), 7.93 (1H, s), 7.99 (1H, d, J = 8.3 Hz), 8.28 (1H, m), 8.36 (2H, m)

Mass spectrometric value (ESI-MS) 714 (M-1)

- 5 Compound 925 1-{3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-[3-(2-hydroxy-ethylsulfanylmethyl)-benzoylamino]-phenyl}-piperidine-3-carboxylic acid

The title compound 925 was produced in substantially the same manner as in Example F.

- 10 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 1.54 - 3.90 (15H, m), 7.24 (1H, m), 7.37 (1H, s), 7.54 (2H, m), 7.77 (1H, d, J = 7.3 Hz), 7.82 (1H, d, J = 8.3 Hz), 7.87 (1H, s), 8.05 (1H, d, J = 8.1 Hz), 8.22 (2H, m), 8.54 (1H, s), 11.23 (1H, s), 12.34 (1H, s)

Mass spectrometric value (ESI-MS) 684 (M+23)

- 15 Compound 926 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-thiomorpholin-4-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 926 was produced in substantially the same manner as in Example F.

- 20 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.27 (3H, s), 2.28 (3H, s), 2.73 (4H, m), 3.32 - 3.60 (8H, m), 3.85 (2H, s), 7.22 (2H, m), 7.31 (1H, d, J = 2.9 Hz), 7.43 - 7.59 (4H, m), 7.77 (1H, d, J = 7.1 Hz), 7.87 (1H, s), 8.30 (1H, m), 8.36 (1H, s), 11.38 (1H, s), 11.91 (1H, s)

Mass spectrometric value (ESI-MS) 561 (M-1)

- 25 Compound 927 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-thiomorpholin-4-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 927 was produced in substantially the same manner as in Example F.

- 30 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.72 (4H, m), 3.31 (2H, m), 3.56 (6H, m), 3.84 (2H, s), 4.79 (1H, m), 7.20 (1H, m), 7.29 (1H, m), 7.53 (2H, m), 7.77 (1H, d, J = 7.6 Hz), 7.80 (1H, d, J = 8.5 Hz), 7.86 (1H, s), 8.05 (1H, m), 8.21 (1H, s), 8.25 (1H, m), 8.48 (1H, s), 11.20 (1H, s), 12.21 (1H, s)

Mass spectrometric value (ESI-MS) 635 (M-1)

- 35 Compound 928 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-thiomorpholin-4-yl-phenyl]-benzamide

The title compound 928 was produced in substantially the same

manner as in Example F.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.73 (4H, m), 3.35 (2H, m), 3.50 - 3.60 (6H, m), 3.82 (3H, s), 3.85 (2H, s), 7.03 (2H, d, J = 8.8 Hz), 7.20 (1H, dd, J = 9.1 Hz, J = 2.8 Hz), 7.31 (1H, d, J = 2.7 Hz), 7.54 (2H, m), 7.71 (2H, d, J = 8.6 Hz), 7.77 (1H, d, J = 7.3 Hz), 7.87 (1H, s), 8.31 (1H, d, J = 9.3 Hz), 8.38 (1H, s), 11.42 (1H, s), 11.87 (1H, s)

Mass spectrometric value (ESI-MS) 563 (M-1)

Compound                      929                      N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-thiomorpholin-4-yl-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl-benzamide

The title compound 929 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.25 (6H, s), 2.28 (3H, s), 2.44 (4H, m), 2.56 - 2.76 (8H, m), 3.25 (4H, m), 3.65 (2H, s), 6.84 (1H, m), 7.00 (1H, s), 7.43 - 7.60 (3H, m), 7.88 (1H, m), 7.95 - 8.11 (4H, m), 8.60 (1H, s), 11.10 (1H, s)

Mass spectrometric value (ESI-MS) 687 (M-1)

#### Example H

Compound                      930                      N-[5-Bromo-3-(4-methoxy-benzylidene-hydrazinocarbonyl)-thiophen-2-yl]-3-dimethylaminomethyl-benzamide

2-Amino-thiophene-3-carboxylic acid methyl ester (compound A) (3.0 g) was dissolved in anhydrous methylene chloride (100 ml). Subsequently, pyridine (2.4 ml) and 3-(chloromethyl)benzoyl chloride (compound B) (2.8 ml) were added to the solution at 0°C, and the mixture was stirred at 0°C for one hr. After the completion of the reaction, distilled water was added thereto, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate and was then concentrated. The residue was purified by column chromatography using a hexane-acetone system to give 2-(3-chloromethyl-benzoylamino)-thiophene-3-carboxylic acid methyl ester as a useful intermediate (4.7 g, yield 100%).

2-(3-Chloromethyl-benzoylamino)-thiophene-3-carboxylic acid methyl ester (2.0 g) produced by the above reaction was dissolved in anhydrous methylene chloride (60 ml). Triethylamine (3 ml) and dimethylamine hydrochloride (compound B') (1.1 g) were added to

the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography using a hexane-acetone system to give 2-(3-dimethylaminomethyl-benzoylamino)-thiophene-3-carboxylic acid methyl ester as a useful intermediate (1.14 g, yield 52%).

2-(3-dimethylaminomethyl-benzoylamino)-thiophene-3-carboxylic acid methyl ester (1.14 g) produced by the above reaction was dissolved in monochlorobenzene. N-bromosuccinimide (877 mg) and 2,2'-azobisisobutyronitrile (81 mg) were added to the solution, and the mixture was stirred at 90°C for 2 hr. After the completion of the reaction, the reaction solution was concentrated, and the residue was purified by column chromatography using a hexane-acetone system to give 5-bromo-2-(3-dimethylaminomethyl-benzoylamino)-thiophene-3-carboxylic acid methyl ester as a useful intermediate (706 mg, yield 54%).

5-Bromo-2-(3-dimethylaminomethyl-benzoylamino)-thiophene-3-carboxylic acid methyl ester (706 mg) produced by the above reaction was dissolved in ethanol (10 ml). Hydrazine monohydrate (1 ml) was added to the solution, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated. The residue was purified by column chromatography eluted with a chloroform-methanol system to give N-(5-bromo-3-hydrazinocarbonyl-thiophen-2-yl)-3-dimethylaminomethyl-benzamide as a hydrazine compound (448 mg, yield 64%).

N-(5-bromo-3-hydrazinocarbonyl-thiophen-2-yl)-3-dimethylaminomethyl-benzamide (50 mg) as the hydrazine compound produced by the above reaction was dissolved in anhydrous toluene (1.0 ml). p-Methoxybenzaldehyde (compound C) (60  $\mu$ l) was added to the solution at room temperature, and the mixture was stirred at room temperature for 15 hr. After the completion of the reaction, the reaction product was

purified by column chromatography eluted with a chloroform-methanol system to give the title compound 930 (29 mg, yield 45%).

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.22 (6H, s), 3.67 (2H, s), 3.78 (3H, s), 6.84 (2H, m), 7.42 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.54 - 7.61 (3H, m),  
 5 7.89 (1H, d, J = 7.6 Hz), 7.93 (1H, s), 8.22 (1H, s), 9.87 (1H, bs), 12.93 (1H, bs)

Mass spectrometric value (ESI-MS) 515 (M-1)

Compound 931 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-(4-methyl-[1,4]diazepan-1-yl)-phenyl]-benzamide  
 10

The title compound 931 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.2 Hz), 1.73 (2H, m), 2.24 (5H, m), 2.37 (2H, m), 2.44 - 2.60 (9H, m), 2.65 (2H, m), 3.12 (2H, m),  
 15 3.20 (2H, m), 3.61 (2H, s), 3.84 (3H, s), 6.62 (1H, m), 6.69 - 6.78 (2H, m), 6.92 (2H, d, J = 8.5 Hz), 7.41 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.52 (1H, d, J = 7.6 Hz), 7.80 (2H, d, J = 8.1 Hz), 7.96 (1H, s), 8.08 (1H, d, J = 9.0 Hz), 8.49 (1H, s), 11.01 (1H, s)

Mass spectrometric value (ESI-MS) 626 (M-1)

Compound 932 3-[(4-Chloro-3-trifluoromethyl-benzylidene)-amino]-2-[3-(2-hydroxy-ethylsulfanylmethyl)-phenyl]-6-(4-methyl-[1,4]diazepan-1-yl)-3H-quinazolin-4-one  
 20

The title compound 932 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 2.10 (2H, m), 2.42 (3H, s), 2.55 - 2.68 (4H, m), 2.80 (2H, m), 3.58 - 3.84 (8H, m), 7.23 (1H, m), 7.34 - 7.44 (3H, m), 7.54 (2H, m), 7.68 (2H, m), 7.76 (1H, m), 7.95 (1H, d, J = 1.7 Hz), 9.36 (1H, s)  
 25

Mass spectrometric value (ESI-MS) 652 (M+23)

Compound 933 2-(3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl)-phenyl-3-[(4-methoxy-benzylidene)-amino]-6-(4-methyl-[1,4]diazepan-1-yl)-3H-quinazolin-4-one  
 30

The title compound 933 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.99 (6H, t, J = 7.2 Hz), 2.06 (2H, m), 2.11 (3H, s), 2.39 (3H, s), 2.45 - 2.60 (10H, m), 2.76 (2H, m), 3.51 (2H, s),  
 35

3.62 (2H, t, J = 6.3 Hz), 3.70 (2H, m), 3.84 (3H, s), 6.90 (2H, d, J = 8.8 Hz), 7.22 (1H, dd, J = 9.0 Hz, J = 3.2 Hz), 7.35 (1H, m), 7.44 (1H, d, J = 3.2 Hz), 7.57 (1H, m), 7.60 - 7.70 (4H, m), 8.88 (1H, s)

Mass spectrometric value (ESI-MS) 632 (M+23)

- 5 Compound 934 1-{3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-[3-(2-hydroxy-ethylsulfanylmethyl)-benzoylamino]-phenyl}-piperidine-3-carboxylic acid

The title compound 934 was produced in substantially the same manner as in Example F.

- 10 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 1.50 - 3.88 (21H, m), 7.14 - 7.60 (7H, m), 7.77 (1H, d, J = 7.3 Hz), 7.87 (1H, s), 8.32 (1H, d, J = 9.0 Hz), 8.40 (1H, s), 11.44 (1H, s), 12.01 (1H, s)

Mass spectrometric value (ESI-MS) 609 (M+23)

#### Example I

- 15 Compound 935 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3,4-dimethoxy-benzamide

- 5-Chloro-2-nitro-benzoic acid (compound A') (10.0 g) was dissolved in ethanol (100 ml). Thionyl chloride (20 ml) was added dropwise to the solution at 0°C, and the mixture was then heated under reflux with stirring for 48 hr. After the completion of the reaction, the reaction solution was concentrated under the reduced pressure. Distilled water was added to the residue, and the mixture was neutralized with a saturated aqueous sodium hydrogencarbonate solution under ice cooling. The cooled solution was subjected to separatory extraction with ethyl acetate. The organic layer was dried over sodium sulfate and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 5-chloro-2-nitro-benzoic acid ethyl ester as a useful intermediate (11.0 g, yield 97%).

- 30 5-Chloro-2-nitro-benzoic acid ethyl ester (3.1 g) produced by the above production process was dissolved in N,N-dimethylformamide (30 ml). Potassium carbonate (3.8 g) and piperidine (compound D) (2.8 ml) were added to the solution at room temperature, and the mixture was then heated under reflux with stirring for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with ethyl acetate.
- 35



The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to give crude 2-nitro-5-piperidin-1-yl-benzoic acid ethyl ester (3.81 g, crude yield 100%).

5           Subsequently, the crude 2-nitro-5-piperidin-1-yl-benzoic acid ethyl ester (3.8 g) was dissolved in methanol (35 ml). Platinum oxide (300 mg) was added to the solution at room temperature, the air in the reaction system was replaced by hydrogen, and the mixture was then stirred for 12 hr. After the completion of the reaction, the atmosphere in  
10           the reaction system was replaced by nitrogen, and the reaction solution was then filtered through Celite to remove platinum oxide and was then concentrated under the reduced pressure to give crude 2-amino-5-piperidin-1-yl-benzoic acid ethyl ester (compound A) as a useful intermediate (3.4 g, crude yield 100%).

15           Subsequently, crude 2-amino-5-piperidin-1-yl-benzoic acid ethyl ester (compound A) (1.3 g) was dissolved in anhydrous methylene chloride (100 ml). Triethylamine (5.6 ml) and 3,4-dimethoxy-benzoyl chloride (compound B) (1.8 g) were added at 0°C, and the mixture was stirred at room temperature for 24 hr. After the completion of the  
20           reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a hexane-  
25           chloroform system to give 2-(3,4-dimethoxy-benzoylamino)-5-piperidin-1-yl-benzoic acid ethyl ester (960 mg, yield 52%).

            2-(3,4-Dimethoxy-benzoylamino)-5-piperidin-1-yl-benzoic acid ethyl ester (380 mg) produced by the above process was dissolved in ethanol (10 ml). Hydrazine monohydrate (3 ml) was added dropwise to  
30           the solution at room temperature, and the mixture was stirred at 90°C for 1.5 hr. After the completion of the reaction, the reaction solution was allowed to stand for cooling, and the precipitated crystals were filtered through Kiriyaama Rohto to give N-(2-hydrazinocarbonyl-4-piperidin-1-yl-phenyl)-3,4-dimethoxy-benzamide as a useful intermediate (270 mg,  
35           yield 71%).

            Subsequently, N-(2-hydrazinocarbonyl-4-piperidin-1-yl-phenyl)-

3,4-dimethoxy-benzamide (56 mg) produced by the above process was dissolved in anhydrous toluene (5 ml). 3,4-Dimethylbenzaldehyde (compound C) (40 mg) and a catalytic amount of acetic acid were added dropwise to the solution at room temperature, and the mixture was stirred at 90°C for 16 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 935 (74 mg, yield 96%).

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.32 (1H, d, J = 9.2 Hz), 8.28 (1H, s), 7.63 (1H, s), 7.59 (1H, dd, J = 2.2 Hz, J = 8.3 Hz), 7.54 (1H, d, J = 1.9 Hz), 7.52 (1H, d, J = 7.8 Hz), 7.36 (1H, d, J = 2.7 Hz), 7.17 - 7.24 (2H, m), 7.06 (1H, d, J = 8.6 Hz), 3.92 (3H, s), 3.90 (3H, s), 3.20 - 3.25 (4H, m), 2.30 (3H, s), 2.29 (3H, s), 1.70 - 1.80 (4H, m), 1.57 - 1.66 (2H, m)

Mass spectrometric value (ESI-MS) 513, 514 (M-1) 537, 538 (M+23)

Compound 936 3,4-Dimethoxy-N-[4-piperidin-1-yl-2-(pyridin-3-ylmethylene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 936 was produced in substantially the same manner as in Example I.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.89 (1H, s), 8.55 - 8.60 (1H, m), 8.39 (1H, s), 8.34 - 8.39 (1H, m), 8.28 (1H, d, J = 9.0 Hz), 7.48 - 7.61 (3H, m), 7.37 (1H, d, J = 2.9 Hz), 7.22 (1H, dd, J = 2.9 Hz, J = 9.3 Hz), 7.06 (1H, d, J = 8.3 Hz), 3.91 (3H, s), 3.90 (3H, s), 3.20 - 3.25 (4H, m), 1.70 - 1.80 (4H, m), 1.57 - 1.66 (2H, m)

Mass spectrometric value (ESI-MS) 486 (M-1)

Compound 937 N-[2-(1H-Imidazol-2-ylmethylene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3,4-dimethoxy-benzamide

The title compound 937 was produced in substantially the same manner as in Example I.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.34 (1H, d, J = 9.0 Hz), 7.03 - 7.62 (8H, m), 3.93 (3H, s), 3.90 (3H, s), 3.15 - 3.19 (4H, m), 1.55 - 1.84 (6H, m)

Mass spectrometric value (ESI-MS) 475 (M-1)

Compound 938 N-[2-(4-Hydroxy-3-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-3,4-dimethoxy-benzamide

The title compound 938 was produced in substantially the same manner as in Example I.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.32 (1H, d, J = 9.3 Hz), 8.24 (1H, s), 7.71 (1H, d, J = 1.7 Hz), 7.59 (1H, dd, J = 1.9 Hz, J = 8.3 Hz), 7.56 (1H, d, J = 2.0 Hz), 7.36 (1H, d, J = 2.9 Hz), 7.22 (1H, dd, J = 2.9 Hz, J = 9.3 Hz), 7.05 - 7.11 (2H, m), 6.82 (1H, d, J = 8.0 Hz), 3.94 (3H, s), 3.92 (3H, s), 3.90 (3H, s), 3.21 - 3.25 (4H, m), 1.71 - 1.80 (4H, m), 1.58 - 1.67 (2H, m)

Mass spectrometric value (ESI-MS) 529, 531, 532 (M-1) 555 (M+23)

10 Compound 939 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-3,4-dimethoxy-benzamide

The title compound 939 was produced in substantially the same manner as in Example I.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.37 (1H, d, J = 9.3 Hz), 8.28 (1H, s), 7.65 (1H, s), 7.60 (1H, dd, J = 2.2 Hz, J = 8.3 Hz), 7.56 (1H, d, J = 2.2 Hz), 7.50 - 7.55 (1H, m), 7.37 (1H, d, J = 2.7 Hz), 7.21 - 7.26 (1H, m), 7.20 (1H, d, J = 7.8 Hz), 7.08 (1H, d, J = 8.3 Hz), 3.92 (3H, s), 3.91 (3H, s), 3.85 - 3.89 (4H, m), 3.20 - 3.29 (4H, m), 2.32 (3H, s), 2.30 (3H, s)

Mass spectrometric value (ESI-MS) 515 (M-1)

20 Compound 940 N-[2-(4-Hydroxy-3-methoxy-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-3,4-dimethoxy-benzamide

The title compound 940 was produced in substantially the same manner as in Example I.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.6 (1H, bs), 8.27 - 8.40 (2H, m), 7.55 - 7.62 (2H, m), 7.47 - 7.53 (1H, m), 7.40 - 7.44 (1H, m), 6.88 - 7.16 (4H, m), 3.98 (3H, s), 3.97 (3H, s), 3.94 (3H, s), 3.60 - 3.72 (4H, m), 2.97 - 3.05 (4H, m)

Mass spectrometric value (ESI-MS) 533, 534, 535 (M-1) 1067 (2M-1)

30 Compound 941 3,4-Dimethoxy-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-benzamide

The title compound 941 was produced in substantially the same manner as in Example I.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.28 - 8.32 (1H, m), 7.83 - 7.89 (1H, m), 7.73 - 7.82 (2H, m), 7.53 - 7.66 (3H, m), 7.20 - 7.30 (1H, m), 7.05 - 7.12 (1H, m), 6.96 - 7.04 (2H, m), 3.83 - 3.95 (13H, m), 3.29 - 3.35 (4H, m)

Mass spectrometric value (ESI-MS) 519, 520 (M+1)

Example J

Compound 942 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

5           5-Chloro-2-nitro-benzoic acid (compound A') (10.0 g) was dissolved in ethanol (100 ml). Thionyl chloride (20 ml) was added dropwise to the solution at 0°C, and the mixture was then heated under reflux with stirring for 48 hr. After the completion of the reaction, the reaction solution was concentrated under the reduced pressure.  
10 Distilled water was added to the residue, and the mixture was neutralized with a saturated aqueous sodium hydrogencarbonate solution under ice cooling, and was then subjected to separatory extraction with ethyl acetate. The organic layer was dried over sodium sulfate and was then concentrated under the reduced pressure. The  
15 residue was purified by column chromatography eluted with a chloroform-methanol system to give 5-chloro-2-nitro-benzoic acid ethyl ester as a useful intermediate (11.0 g, yield 97%).

          5-Chloro-2-nitro-benzoic acid ethyl ester (3.1 g) produced by the above process was dissolved in N,N-dimethylformamide (30 ml),  
20 potassium carbonate (3.8 g) and piperidine (compound D) (2.8 ml) were added to the solution at room temperature, and was then heated under reflux with stirring for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with ethyl acetate. The organic  
25 layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to give crude 2-nitro-5-piperidin-1-yl-benzoic acid ethyl ester (3.8 g, crude yield 100%).

          Subsequently, crude 2-nitro-5-piperidin-1-yl-benzoic acid ethyl ester (3.8 g) was dissolved in methanol (35 ml), and platinum oxide (300  
30 mg) was added to the solution at room temperature. The air in the reaction system was replaced by hydrogen, and the mixture was then stirred for 12 hr. After the completion of the reaction, the atmosphere in the reaction system was replaced by nitrogen, and the reaction solution was then filtered through Celite to remove platinum oxide, and was then  
35 concentrated under the reduced pressure to give crude 2-amino-5-piperidin-1-yl-benzoic acid ethyl ester (compound A) as a useful

intermediate (3.4 g, crude yield 100%).

2-Amino-5-piperidin-1-yl-benzoic acid ethyl ester (compound A) (1.6 g) synthesized by the above process was dissolved in anhydrous methylene chloride (20 ml). Pyridine (1.0 ml) and 3-(chloromethyl)benzoyl chloride (compound B) (1.2 ml) were added dropwise to the solution at 0°C, and the mixture was then stirred at room temperature for one hr. After the completion of the reaction, the reaction solution was concentrated under the reduced pressure. Distilled water was added to the residue, and the mixture was subjected to separatory extraction with ethyl acetate. The organic layer was dried over sodium sulfate and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-chloromethyl-benzoylamino)-5-piperidin-1-yl-benzoic acid ethyl ester as a useful intermediate (1.7 g, yield 63%).

2-(3-Chloromethyl-benzoylamino)-5-piperidin-1-yl-benzoic acid ethyl ester (200 mg) produced by the above reaction was dissolved in anhydrous methylene chloride (2 ml). Triethylamine (150  $\mu$ l) and diisopropanolamine (compound B') (150 mg) were added to the solution at room temperature, and the mixture was then stirred at that temperature for 36 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-5-piperidin-1-yl-benzoic acid ethyl ester as a useful intermediate (200 mg, yield 82%).

Subsequently, 2-(3-[[bis-(2-hydroxy-propyl)amino]-methyl]-benzoylamino)-5-piperidin-1-yl-benzoic acid ethyl ester (200 mg) was dissolved in ethanol (2 ml). Hydrazine monohydrate (200  $\mu$ l) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, the reaction solution was concentrated under the reduced pressure. The residue was purified by column chromatography eluted

with a chloroform-methanol system to give 3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-N-(2-hydrazinocarbonyl-4-piperidin-1-yl-phenyl)benzamide as a useful intermediate (200 mg, yield 100%).

3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-(2-hydrazino-  
 5 carbonyl-4-piperidin-1-ylphenyl)benzamide (53 mg) produced by the  
 above process was dissolved in anhydrous toluene (5 ml). 4-Chloro-3-  
 (trifluoromethyl)benzaldehyde (compound C) (69 mg) and a catalytic  
 amount of acetic acid were added dropwise to the solution at room  
 temperature, and the mixture was then stirred at 90°C for 3 hr. After the  
 10 completion of the reaction, the reaction solution was allowed to stand for  
 cooling, and the resultant crystals were collected by Kiriya Rohto to  
 give the title compound 942 (15 mg, yield 20%). The filtrate obtained by  
 the filtration through Kiriya Rohto was concentrated under the  
 reduced pressure, and the residue was purified by column  
 15 chromatography eluted with a chloroform-methanol system to again give  
 the title compound 942 (37 mg, yield 50%) (final step: total yield 70%).  
<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.31 - 8.38 (3H, m), 8.00 - 8.07 (2H, m),  
 7.86 (1H, d, J = 8.0 Hz), 7.67 (1H, d, J = 8.6 Hz), 7.58 (1H, d, J = 7.8 Hz),  
 7.48 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.38 (1H, d, J = 2.7 Hz), 7.23 (1H,  
 20 dd, J = 2.7 Hz, J = 9.0 Hz), 3.83 - 3.95 (4H, m), 3.20 - 3.25 (4H, m), 2.38  
 - 2.55 (4H, m), 1.70 - 1.78 (4H, m), 1.58 - 1.66 (2H, m), 1.07 (3H, s),  
 1.06 (3H, s)

Mass spectrometric value (ESI-MS) 672, 674 (M-1)

#### Example K

25 Compound 943 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-(2-  
 diethylamino-ethoxy)-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-  
 phenyl]-benzamide

3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(3,4-dimethyl-  
 benzylidene-hydrazinocarbonyl)-4-hydroxyphenyl]-benzamide (45 mg)  
 30 produced in substantially the same manner as in Example 8 was  
 dissolved in N,N-dimethylformamide (10 ml). 60% Sodium hydride (4.0  
 mg) was added to the solution at room temperature, and the mixture was  
 stirred at that temperature for 10 min. Subsequently, (2-  
 bromoethyl)diethylamine hydrobromide (44 mg) was added thereto, and  
 35 the mixture was stirred for 12 hr. After the completion of the reaction,  
 distilled water was added thereto, and the mixture was subjected to

separatory extraction with ethyl acetate. The organic layer was washed with saturated brine and was dried over sodium sulfate. The organic layer was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform system to give the title compound 943 (7 mg, yield 13%).

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 10.02 (1H, bs), 8.20 - 8.25 (1H, m), 7.75 - 8.00 (3H, m), 7.35 - 7.50 (2H, m), 7.30 (1H, s), 7.23 (1H, s), 6.96 - 7.10 (3H, m), 4.25 - 4.45 (2H, m), 3.70 - 4.00 (4H, m), 2.30 - 2.80 (10H, m), 2.20 - 2.30 (6H, m), 1.00 - 1.20 (12H, m)

Mass spectrometric value (ESI-MS) 630 (M-1) 654 (M+23)

#### Example L

Compound 944 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-(2-oxo-pyrrolidin-1-yl)-phenyl]-benzamide

5-Amino-2-nitro-benzoic acid (compound A') (910 mg) was dissolved in methanol (50 ml). Thionyl chloride (0.74 ml) was added dropwise to the solution on an ice bath, and a reaction was allowed to proceed under reflux with heating for 12 hr. After the completion of the reaction, the reaction solution was allowed to stand for cooling to room temperature and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 5-amino-2-nitro-benzoic acid methyl ester (410 mg, yield 42%).

Subsequently, 5-amino-2-nitro-benzoic acid methyl ester (750 mg) was dissolved in anhydrous methylene chloride (30 ml). Pyridine (360 mg: dissolved in 2 ml of anhydrous methylene chloride) and 4-chloro-butyryl chloride (compound D) (630 mg: dissolved in 2 ml of anhydrous methylene chloride) were added dropwise at room temperature, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 5-(4-chloro-butyrylamino)-2-nitro-benzoic acid methyl ester as a

useful intermediate (1.2 g, yield 100%).

Subsequently, 5-(4-chloro-butyrylamino)-2-nitro-benzoic acid methyl ester (50 mg) was dissolved in N,N-dimethylformamide (5 ml). Morpholine (70 mg) and potassium carbonate (44 mg) were added to the solution at room temperature, and the mixture was stirred at room temperature for 3 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-nitro-5-(2-oxo-pyrrolidin-1-yl)-benzoic acid methyl ester (45 mg, yield 100%).

2-Nitro-5-(2-oxo-pyrrolidin-1-yl)-benzoic acid methyl ester (24 mg) was dissolved in ethanol (5 ml), and 10% palladium-carbon (3 mg) was added to the solution at room temperature. The air in the reaction system was replaced by hydrogen, and the reaction solution was then stirred at that temperature for 4 hr. After the completion of the reaction, the reaction solution was filtered through Celite to remove 10% palladium-carbon and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-amino-5-(2-oxo-pyrrolidin-1-yl)benzoic acid methyl ester (compound A) (10 mg, yield 83%).

2-Amino-5-(2-oxo-pyrrolidin-1-yl)benzoic acid methyl ester (compound A) (10 mg) produced by the above process was dissolved in anhydrous methylene chloride. Pyridine (5 mg: dissolved in 1 ml of anhydrous methylene chloride) and 3-(chloromethyl)benzoyl chloride (compound B) (11 mg: dissolved in 1 ml of anhydrous methylene chloride) were added dropwise to the solution at 0°C, and the mixture was stirred at room temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-chloromethyl-benzoylamino)-5-



(2-oxo-pyrrolidin-1-yl)benzoic acid methyl ester (14 mg, yield 93%).

Subsequently, 2-(3-chloromethyl-benzoylamino)-5-(2-oxo-pyrrolidin-1-yl)benzoic acid methyl ester (14 mg) was dissolved in anhydrous methylene chloride (5 ml). Triethylamine (7 mg: dissolved in 2 ml of anhydrous methylene chloride) and diisopropanolamine (compound B') (10 mg: dissolved in 2 ml of anhydrous methylene chloride) were added dropwise to the solution at 0°C, and the mixture was stirred at room temperature for 24 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-{[bis-(2-hydroxy-propyl)-amino]-methyl}-benzoylamino)-5-(2-oxo-pyrrolidin-1-yl)-benzoic acid methyl ester (8.0 mg, yield 47%).

2-(3-{[Bis-(2-hydroxy-propyl)-amino]-methyl}-benzoylamino)-5-(2-oxo-pyrrolidin-1-yl)-benzoic acid methyl ester (8.0 mg) produced by the above reaction was dissolved in ethanol (5 ml). Hydrazine monohydrate (1 ml) was added dropwise to the solution at room temperature, and the mixture was stirred at that temperature for one hr. After the completion of the reaction, the reaction solution was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-{[bis-(2-hydroxy-propyl)-amino]-methyl}-N-[2-hydrazinocarbonyl-4-(2-oxo-pyrrolidin-1-yl)-phenyl]-benzamide (8.0 mg, yield 100%).

Subsequently, 3-{[bis-(2-hydroxy-propyl)-amino]-methyl}-N-[2-hydrazinocarbonyl-4-(2-oxo-pyrrolidin-1-yl)-phenyl]-benzamide (8.0 mg) produced by the above reaction was dissolved in anhydrous toluene (5 ml). 3,4-Dimethylbenzaldehyde (compound C) (4.6 mg: dissolved in 2 ml of anhydrous toluene) and a catalytic amount of acetic acid were added dropwise to the solution at room temperature, and the mixture was stirred at that temperature for 4 hr. After the completion of the reaction, the reaction solution was neutralized with a saturated aqueous sodium hydrogencarbonate solution, and was then subjected to separatory extraction with ethyl acetate. The organic layer was washed

with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 944 (6.5 mg, yield 65%).

5 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.11 (1H, d, J = 8.3 Hz), 10.88 (1H, d, J = 9.8 Hz), 8.74 (1H, dd, J = 17.1 Hz, J = 9.0 Hz), 8.20 - 8.30 (3H, m), 7.95 - 8.05 (1H, m), 7.28 - 7.60 (5H, m), 7.08 (1H, dd, J = 3.4 Hz, J = 8.0 Hz), 3.75 - 4.10 (5H, m), 2.40 - 2.61 (5H, m), 2.25 (3H, s), 2.23 (3H, s), 1.95 - 2.15 (2H, m), 1.25 (2H, s), 1.11 (6H, d, J = 6.4 Hz)

10 Mass spectrometric value (ESI-MS) 598 (M-1) 622 (M+23)

Compound 945 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(2-oxo-pyrrolidin-1-yl)-phenyl]-benzamide

The title compound 945 was produced in substantially the same manner as in Example L.

15 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.33 (1H, d, J = 9.0 Hz, ), 11.94 (1H, bs), 8.71 (1H, dd, J = 9.0 Hz, J = 9.0 Hz), 8.07 - 8.40 (3H, m), 8.11 (1H, d, J = 21.0 Hz), 7.99 (1H, d, J = 7.3 Hz), 7.78 (1H, dd, J = 8.3 Hz, J = 29.0 Hz), 7.20 - 7.50 (4H, m), 3.55 - 4.20 (6H, m), 2.45 - 2.74 (4H, m), 2.25 - 2.42 (2H, m), 1.78 - 1.87 (2H, m), 1.50 - 1.72 (6H, m)

Mass spectrometric value (ESI-MS) 672 (M-1)

Compound 946 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-(2-oxo-pyrrolidin-1-yl)-phenyl]-benzamide

25 The title compound 946 was produced in substantially the same manner as in Example L.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.17 (1H, d, J = 8.8 Hz), 12.23 (1H, d, J = 12.4 Hz), 8.70 (1H, dd, J = 9.3 Hz, J = 20.7 Hz), 8.14 - 8.27 (3H, m), 7.95 - 8.01 (1H, m), 7.68 - 7.74 (2H, m), 7.26 - 7.46 (3H, m), 6.78 - 6.82 (2H, m), 3.50 - 4.20 (9H, m), 2.35 - 2.63 (6H, m), 1.92 - 2.05 (2H, m), 1.00 - 1.30 (6H, m)

Mass spectrometric value (ESI-MS) 600 (M-1)

Compound 947 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-fluoro-benzylidene-hydrazinocarbonyl)-4-(2-oxo-pyrrolidin-1-yl)-phenyl]-

35 benzamide

The title compound 947 was produced in substantially the same

manner as in Example L.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.21 (1H, d, J = 5.4 Hz), 11.44 (1H, d, J = 12.4 Hz), 8.70 (1H, dd, J = 9.0 Hz, J = 26.1 Hz), 8.20 - 8.35 (3H, m), 7.96 - 7.99 (1H, m), 7.72 - 7.82 (2H, m), 7.38 - 7.46 (2H, m), 7.25 - 7.32 (1H, m), 6.93 - 6.99 (2H, m), 3.50 - 4.10 (6H, m), 2.35 - 2.64 (6H, m), 1.87 - 1.97 (2H, m), 1.07 - 1.14 (6H, m)

Mass spectrometric value (ESI-MS) 588 (M-1)

Compound 948 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-(2-oxo-pyrrolidin-1-yl)-phenyl]-benzamide

The title compound 948 was produced in substantially the same manner as in Example L.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.13 (1H, d, J = 3.0 Hz), 11.28 (1H, d, J = 11.4 Hz), 8.68 (1H, dd, J = 9.2 Hz, J = 20.5 Hz), 8.16 - 8.29 (3H, m), 7.94 - 8.00 (1H, m), 7.60 - 7.70 (2H, m), 7.25 - 7.45 (3H, m), 7.06 - 7.11 (2H, m), 3.52 - 4.07 (6H, m), 2.20 - 2.61 (9H, m), 1.90 - 2.00 (2H, m), 1.09 - 1.30 (6H, m)

Mass spectrometric value (ESI-MS) 584 (M-1)

#### Example M

Compound 949 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-(2-hydroxy-3-piperidin-1-yl-propoxy)-phenyl]-benzamide

2-Amino-5-hydroxy-benzoic acid methyl ester (compound A) (350 mg) was dissolved in anhydrous methylene chloride (20 ml). Pyridine (230 mg) and 3-(chloromethyl)benzoic acid (compound B) (540 mg) were added dropwise to the solution at 0°C, and the mixture was stirred at room temperature for 10 min. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-chloromethyl-benzoylamino)-5-hydroxy-benzoic acid methyl ester as a useful intermediate (280 mg, yield 42%).

Subsequently, 2-(3-chloromethyl-benzoylamino)-5-hydroxy-benzoic acid methyl ester (280 mg) produced by the above reaction was

dissolved in anhydrous methylene chloride (20 ml). Triethylamine (180 mg) and diisopropanolamine (compound B') (230 mg) were added dropwise to the solution at room temperature, and the mixture was stirred at that temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-5-hydroxy-benzoic acid methyl ester (58 mg, yield 16%).

2-(3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-5-hydroxy-benzoic acid methyl ester (60 mg) produced by the above process was dissolved in N,N-dimethylformamide (5 ml). Potassium carbonate (58 mg) and epibromohydrin (58 mg: dissolved in 2 ml of N,N-dimethylformamide) were added to the solution at room temperature, and the mixture was stirred at that temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-5-oxilanylmethoxy-benzoic acid methyl ester as a useful intermediate (68 mg, yield 66%).

2-(3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-5-oxilanylmethoxy-benzoic acid methyl ester (12 mg) produced by the above process was dissolved in anhydrous methylene chloride (5 ml). Piperidine (6.5 mg: dissolved in 1 ml of anhydrous methylene chloride) and a catalytic amount of ytterbium (III) trifluoromethanesulfonate were added to the solution at room temperature, and the mixture was stirred at that temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and

was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-[[bis-(2-hydroxy-propyl)amino]methyl]benzoylamino)-5-(2-hydroxy-3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (10 mg, yield 71%).

Subsequently, 2-(3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-5-(2-hydroxy-3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (13 mg) produced by the above process was dissolved in ethanol (5 ml). Hydrazine monohydrate (1 ml) was added dropwise to the solution at room temperature, and the mixture was stirred at that temperature for 12 hr. After the completion of the reaction, the reaction solution was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-hydrazinocarbonyl-4-(2-hydroxy-3-piperidin-1-yl-propoxy)-phenyl]-benzamide (5.8 mg, yield 45%).

3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-hydrazinocarbonyl-4-(2-hydroxy-3-piperidin-1-yl-propoxy)-phenyl]-benzamide (5.8 mg) produced by the above process was dissolved in anhydrous toluene (5 ml). 3,4-Dimethylbenzaldehyde (compound C) (3 mg; dissolved in 1 ml of anhydrous toluene) and a catalytic amount of acetic acid were added dropwise to the solution at room temperature, and the mixture was stirred at that temperature for 6 hr. After the completion of the reaction, the reaction solution was neutralized with a saturated aqueous sodium hydrogencarbonate solution, and was then subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 949 (4.0 mg, yield 60%).

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.97 (1H, bs), 7.94 - 8.65 (4H, m), 6.98 - 7.65 (7H, m), 3.52 - 4.45 (7H, m), 1.50 - 2.90 (16H, m), 1.20 - 1.30 (6H, m), 1.00 - 1.18 (6H, m)

Mass spectrometric value (ESI-MS) 672 (M-1)

Compound 950 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(2-hydroxy-3-

piperidin-1-yl-propoxy)-phenyl]-benzamide

The title compound 950 was produced in substantially the same manner as in Example M.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.10 - 12.20 (1H, m), 7.20 - 8.70 (10H, m), 6.95 - 7.05 (1H, m), 1.50 - 4.25 (17H, m), 1.20 - 1.30 (6H, m), 0.85 - 1.18 (6H, m)

Mass spectrometric value (ESI-MS) 746 (M-1)

Compound 951 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-(3-diethylamino-2-hydroxy-propoxy)-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 951 was produced in substantially the same manner as in Example M.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.02 (1H, bs), 8.58 - 8.65 (1H, m), 8.47 (1H, s), 8.17 - 8.24 (1H, m), 7.80 - 8.00 (1H, m), 7.27 - 7.60 (5H, m), 6.98 - 7.10 (2H, m), 1.50 - 4.12 (23H, m), 1.20 - 1.28 (6H, m), 1.08 - 1.16 (6H, m)

Mass spectrometric value (ESI-MS) 660 (M-1)

Compound 952 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(3-diethylamino-2-hydroxy-propoxy)-phenyl]-benzamide

The title compound 952 was produced in substantially the same manner as in Example M.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.21 (1H, d, J = 16.1 Hz), 8.64 - 8.67 (1H, m), 8.50 - 8.58 (1H, m), 8.30 - 8.38 (1H, m), 7.80 - 8.12 (3H, m), 7.35 - 7.50 (4H, m), 6.97 - 7.00 (1H, m), 1.50 - 4.50 (17H, m), 1.20 - 1.35 (6H, m), 1.08 - 1.17 (6H, m)

Mass spectrometric value (ESI-MS) 734 (M-1)

Compound 953 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-(2-hydroxy-3-morpholin-4-yl-propoxy)-phenyl]-benzamide

The title compound 953 was produced in substantially the same manner as in Example M.

Mass spectrometric value (ESI-MS) 674 (M-1)

Compound 954 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(2-hydroxy-3-morpholin-4-yl-propoxy)-phenyl]-benzamide

The title compound 954 was produced in substantially the same manner as in Example M.

Mass spectrometric value (ESI-MS) 748 (M-1)

#### Example N

5    Compound        955        N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-5-methyl-thiophen-2-yl]-3,4-dimethoxy-benzamide

10        Methyl 2-aminothiophene-3-carboxylate (compound A) (160 mg) was dissolved in anhydrous methylene chloride (5 ml). Pyridine (120 mg: dissolved in 2 ml of anhydrous methylene chloride) and 3,4-dimethoxybenzoyl chloride (compound B) (300 mg) were added to the solution at 0°C, and the mixture was stirred at room temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed  
15 with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography using a hexane-acetone system to give 2-(3,4-dimethoxy-benzoylamino)-thiophene-3-carboxylic acid methyl ester (320 mg, yield 100%).

20        Separately, phosphorus oxychloride (100 µl) was added dropwise to N,N-dimethylformamide (29 mg) at 0°C, and the mixture was stirred at that temperature for 5 min. Subsequently, the reaction system was heated to 80°C, 2-(3,4-dimethoxy-benzoylamino)-thiophene-3-carboxylic acid methyl ester (64 mg: dissolved in 1 ml of N,N-dimethylformamide)  
25 produced by the above reaction was then added dropwise thereto, and the mixture was stirred at that temperature for 2 hr. After the completion of the reaction, the reaction solution was neutralized with a saturated sodium hydrogencarbonate solution, and was then subjected to separatory extraction with chloroform. The organic layer was washed  
30 with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to give crude 2-(3,4-dimethoxy-benzoylamino)-5-formylthiophene-3-carboxylic acid methyl ester (70 mg, crude yield 100%).

35        Crude        2-(3,4-dimethoxy-benzoylamino)-5-formylthiophene-3-carboxylic acid methyl ester (35 mg) synthesized by the above process was dissolved in tetrahydrofuran/N,N-dimethylformamide = 1/1 (10 ml).

Sodium borohydride (22 mg) was added to the solution at room temperature, and the mixture was stirred at that temperature for 20 min. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory  
5 extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to give crude 2-(3,4-dimethoxy-benzoylamino)-5-hydroxymethyl-thiophene-3-carboxylic acid methyl ester (35 mg, crude yield 100%).

10 Subsequently, crude 2-(3,4-dimethoxy-benzoylamino)-5-hydroxymethyl-thiophene-3-carboxylic acid methyl ester (crude 35 mg) synthesized by the above process was dissolved in anhydrous methylene chloride (5 ml). Pyridine (24 mg: dissolved in 1 ml of anhydrous methylene chloride) and acetic anhydride (31 mg: dissolved in  
15 1 ml of anhydrous methylene chloride) were added dropwise to the solution at room temperature, and the mixture was stirred at that temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer  
20 was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 5-acetoxymethyl-2-(3,4-dimethoxy-benzoylamino)-thiophene-3-carboxylic acid methyl ester as a useful intermediate (26 mg,  
25 3 steps, yield 67%).

5-Acetoxymethyl-2-(3,4-dimethoxy-benzoylamino)-thiophene-3-carboxylic acid methyl ester (26 mg) produced by the above process was dissolved in ethanol/tetrahydrofuran = 5/2 (7 ml), and 10% palladium-carbon (10 mg) was added to the solution at room temperature. The air  
30 in the reaction system was replaced by hydrogen, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, the atmosphere in the reaction system was replaced by nitrogen, and the reaction solution was then filtered through Celite to remove 10% palladium-carbon and was then concentrated under the  
35 reduced pressure. The residue was purified by column chromatography using a hexane-acetone system to give 2-(3,4-dimethoxy-benzoylamino)-



5-methyl-thiophene-3-carboxylic acid methyl ester (13 mg, yield 59%).

Subsequently, 2-(3,4-dimethoxy-benzoylamino)-5-methyl-thiophene-3-carboxylic acid methyl ester (16 mg) synthesized by the above process was dissolved in ethanol (5 ml). Hydrazine (1 ml) was then added to the solution at room temperature, and the mixture was stirred at that temperature for 12 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give N-(3-hydrazinocarbonyl)-5-methylthiophen-2-yl)-3,4-dimethoxy-benzamide (8.0 mg, yield 50%).

Subsequently, N-(3-hydrazinocarbonyl)-5-methylthiophen-2-yl)-3,4-dimethoxy-benzamide (8.0 mg) was dissolved in anhydrous toluene (5 ml), 4-chloro-3-(trifluoromethyl)benzaldehyde (compound C) (15 mg: dissolved in 1 ml of anhydrous toluene) and a catalytic amount of acetic acid were added dropwise to the solution at room temperature, and the mixture was stirred at that temperature for 3 hr. After the completion of the reaction, the reaction solution was neutralized with a saturated sodium hydrogencarbonate solution and was then subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 955 (5.0 mg, yield 38%).

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.66 (1H, bs), 9.19 (1H, bs), 8.19 (1H, bs), 8.02 (1H, s), 7.80 - 7.92 (1H, m), 7.62 - 7.65 (2H, m), 7.56 (1H, d, J = 8.3 Hz), 6.92 (1H, d, J = 8.8 Hz), 3.97 (3H, s), 3.95 (3H, s), 2.44 (3H, s)

Mass spectrometric value (ESI-MS) 524 (M-1)

#### Example O

Compound 956 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methyl-5-piperidin-1-ylmethyl-thiophen-2-yl]-3-diethylaminomethyl-benzamide

Ethyl-2-amino-4-methylthiophene-3-carboxylate (compound A) (370 mg) was dissolved in anhydrous methylene chloride (10 ml). Pyridine (240 mg: dissolved in 2 ml of anhydrous methylene chloride) and 3-(chloromethyl)benzoyl chloride (compound B) (570 mg: dissolved

in 2 ml of anhydrous methylene chloride) were added dropwise to the solution at 0°C, and the mixture was stirred at room temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was then subjected to  
5   separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give  
10   2-(3-chloromethylbenzoylamino)-4-methyl-thiophene-3-carboxylic acid ethyl ester (670 mg, yield 99%).

Subsequently, 2-(3-diethylaminomethyl-benzoylamino)-4-methyl-thiophene-3-carboxylic acid ethyl ester (700 mg) synthesized by the above process was dissolved in anhydrous methylene chloride (10 ml). Triethylamine (425 mg: dissolved in 2 ml of anhydrous methylene  
15   chloride) and diethylamine (compound B') (310 mg: dissolved in 2 ml of anhydrous methylene chloride) were added dropwise to the solution at 0°C, and the mixture was stirred at room temperature for 2 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was then subjected to separatory  
20   extraction with chloroform, and the organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give  
25   2-(3-diethylaminomethyl-benzoylamino)-4-methylthiophene-3-carboxylic acid ethyl ester (690 mg, yield 88%).

Separately, phosphorus oxychloride (200  $\mu$ l) was added dropwise to N,N-dimethylformamide (73 mg) at 0°C, and the mixture was stirred at that temperature for 5 min. The reaction system was heated to 80°C, 2-  
30   (3-diethylaminomethyl-benzoylamino)-4-methyl-thiophene-3-carboxylic acid ethyl ester (187 mg) synthesized by the above process was then added thereto, and the mixture was stirred at that temperature for 3 hr. After the completion of the reaction, the reaction solution was neutralized with a saturated sodium hydrogencarbonate solution, and was then subjected to separatory extraction with chloroform, and the organic layer  
35   was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was

purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-diethylaminomethyl-benzoylamino)-5-formyl-4-methylthiophene-3-carboxylic acid ethyl ester as a useful intermediate (110 mg, yield 53%).

5           2-(3-diethylaminomethyl-benzoylamino)-5-formyl-4-methylthiophene-3-carboxylic acid ethyl ester (110 mg) synthesized by the above process was dissolved in N,N-dimethylformamide (10 ml), acetic acid (100  $\mu$ l) and sodium triacetoxyborohydride (66 mg) were added to the solution at room temperature, and the mixture was stirred at that  
10           temperature for one hr. After the completion of the reaction, the reaction solution was neutralized with a saturated sodium hydrogencarbonate solution, and was then subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then  
15           concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-diethylaminomethyl-benzoylamino)-4-methyl-5-piperidin-1-ylmethylthiophene-3-carboxylic acid ethyl ester (79 mg, yield 64%).

          Subsequently, 2-(3-diethylaminomethyl-benzoylamino)-4-methyl-  
20           5-piperidin-1-ylmethylthiophene-3-carboxylic acid ethyl ester (79 mg) was dissolved in ethanol (10 ml), hydrazine monohydrate (2 ml) was added dropwise to the solution at room temperature, and a reaction was then allowed to proceed at that temperature for 12 hr. After the completion of the reaction, the reaction system was concentrated under  
25           the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-diethylaminomethyl-N-(3-hydrazinocarbonyl-4-methyl-5-piperidin-1-ylmethylthiophen-2-yl)-benzamide as a useful intermediate (30 mg, yield 38%).

30           Subsequently, 3-diethylaminomethyl-N-(3-hydrazinocarbonyl-4-methyl-5-piperidin-1-ylmethylthiophen-2-yl)-benzamide (15 mg) produced by the above process was dissolved in anhydrous toluene. 4-Chloro-3-(trifluoromethyl)benzaldehyde (compound C) (21 mg: dissolved in 1 ml of anhydrous toluene) and a catalytic amount of acetic acid were added  
35           dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 3 hr. After the completion of the reaction,

the reaction solution was neutralized with a saturated sodium hydrogencarbonate solution, and was then subjected to separatory extraction with ethyl acetate, and the organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 956 (6.0 mg, yield 29%).

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 8.26 (1H, bs), 8.05 (1H, s), 8.00 (1H, s), 7.95 (1H, d, J = 8.0 Hz), 7.88 (1H, d, J = 7.6 Hz), 7.55 - 7.62 (2H, m), 7.42 - 7.48 (1H, m), 3.67 (2H, s), 2.48 - 2.60 (10H, m), 1.24 - 2.00 (9H, m), 1.07 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 646 (M-1)

Compound 957 3-Diethylaminomethyl-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-methyl-5-piperidin-1-ylmethyl-thiophen-2-yl]-benzamide

The title compound 957 was produced in substantially the same manner as in Example O.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 8.08 (1H, bs), 7.99 (1H, bs), 7.90 (1H, d, J = 7.8 Hz), 7.74 (2H, d, J = 8.3 Hz), 7.60 (1H, d, J = 7.6 Hz), 7.40 - 7.45 (1H, m), 6.94 (2H, d, J = 8.8 Hz), 3.86 (3H, s), 3.67 (2H, s), 2.40 - 2.60 (10H, m), 1.25 - 1.62 (9H, m), 1.06 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 574 (M-1) 598 (M+23)

Compound 958 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-piperidin-1-yl-phenyl]-benzamide

The title compound 958 was produced in substantially the same manner as in Example J.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.38 (1H, dd, J = 6.1 Hz, J = 9.0 Hz), 8.29 (1H, s), 8.01 (1H, bs), 7.86 (1H, d, J = 7.4 Hz), 7.75 - 7.85 (2H, m), 7.59 (1H, d, J = 7.3 Hz), 7.48 (1H, dd, J = 7.6 Hz, J = 7.8 Hz), 7.37 (1H, d, J = 2.7 Hz), 7.22 (1H, dd, J = 3.0 Hz, J = 9.0 Hz), 6.90 - 7.03 (2H, m), 3.80 - 3.90 (7H, m), 3.22 - 3.30 (4H, m), 2.40 - 2.60 (4H, m), 1.70 - 1.89 (4H, m), 1.62 - 1.64 (2H, m), 1.08 (3H, d, J = 6.3 Hz), 1.07 (3H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 600, 601 (M-1) 622 (M-1+23)

#### Example P

Compound 959 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3-fluoro-

benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-benzamide

3-Amino-naphthalene-2-carboxylic acid (compound A') (1.2 g) was dissolved in anhydrous methylene chloride (12 ml). 1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (2.5 g), 1-hydroxybenzotriazole monohydrate (1.5 g), and triethylamine (1 ml) were added to the solution at room temperature, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography using a hexane-acetone system to give 3-amino-naphthalene-2-carboxylic acid methyl ester as a useful intermediate (compound A) (530 mg, yield 41%).

3-Amino-naphthalene-2-carboxylic acid methyl ester (compound A) (530 mg) produced by the above process was dissolved in anhydrous methylene chloride (10 ml). Pyridine (0.5 ml) and 3-(chloromethyl)benzoyl chloride (compound B) (0.6 ml) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 30 min. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was concentrated under the reduced pressure to precipitate crystals. The crystals were collected by Kiriya Rohto and were washed with a hexane-ether solvent to give 3-(3-chloromethylbenzoylamino)-naphthalene-2-carboxylic acid methyl ester (870 mg, yield 93%).

Subsequently, 3-(3-chloromethyl-benzoylamino)-naphthalene-2-carboxylic acid methyl ester (870 mg) was dissolved in anhydrous methylene chloride (15 ml). Pyridine (400  $\mu$ l) and diisopropanolamine (compound B') (1.0 g) were added to the solution at room temperature, and the mixture was then stirred at that temperature for 48 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was

dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a hexane-acetone system to give 3-(3-[[bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-naphthalene-2-carboxylic acid methyl ester as a useful intermediate (640 mg).

3-(3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-naphthalene-2-carboxylic acid methyl ester (640 mg) produced by the above reaction was dissolved in ethanol (7 ml). Hydrazine monohydrate (1 ml) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 2 hr. After the completion of the reaction, the reaction solution was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-[[bis-(2-hydroxy-propyl)amino]-methyl]-N-(3-hydrazinocarbonylnaphthalen-2-yl)-benzamide (350 mg, yield 54%).

Subsequently, 3-[[bis-(2-hydroxy-propyl)amino]-methyl]-N-(3-hydrazinocarbonylnaphthalen-2-yl)-benzamide (50 mg) was dissolved in anhydrous toluene (1 ml). 3-Fluorobenzaldehyde (compound C) (50  $\mu$ l) was added dropwise to the solution at room temperature, and the mixture was then stirred at 120°C for 12 hr. After the completion of the reaction, the reaction solution was allowed to stand for cooling at room temperature and the reaction system was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a hexane-acetone system to give the title compound 959 (32 mg, yield 51%).

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz):  $\delta$  12.05 (1H, bs), 11.40 - 11.55 (1H, m), 8.86 (1H, d, J = 18.6 Hz), 8.10 - 8.40 (3H, m), 7.88 (1H, dd, J = 7.3 Hz, J = 17.8 Hz), 7.66 (2H, d, J = 8.3 Hz), 7.25 - 7.50 (5H, m), 7.05 - 7.15 (2H, m), 6.80 - 6.95 (1H, m), 4.15 - 4.25 (2H, m), 3.95 - 4.05 (2H, m), 3.89 (1H, s), 3.60 (1H, d, J = 1.4 Hz), 2.48 - 2.83 (4H, m), 1.20 (3H, d, J = 6.1 Hz), 1.14 (3H, d, J = 6.3 Hz)

Mass spectrometric value (ESI-MS) 555 (M-1)

Compound 960 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-benzamide

The title compound 960 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.90 (1H, bs), 10.90 - 11.00 (1H, m), 8.85 (1H, bs), 8.30 (1H, d, J = 3.9 Hz), 7.86 - 8.20 (3H, m), 7.52 - 7.64 (3H, m), 7.28 - 7.46 (4H, m), 7.06 - 7.18 (1H, m), 6.88 (2H, d, J = 7.8 Hz), 3.80 - 3.96 (4H, m), 3.55 - 3.60 (1H, m), 2.40 - 2.70 (4H, m), 2.18 - 2.23 (3H, m), 1.10 (3H, d, J = 6.1 Hz), 1.06 (3H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 551 (M-1)

Compound 961 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-benzamide

The title compound 961 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.95 - 12.05 (1H, m), 10.80 - 10.95 (1H, m), 8.95 - 9.02 (1H, m), 8.15 - 8.32 (3H, m), 7.95 - 8.05 (1H, m), 7.20 - 7.80 (8H, m), 6.87 (1H, d, J = 7.3 Hz), 3.60 - 4.20 (4H, m), 2.28 - 2.75 (4H, m), 2.00 - 2.15 (6H, m), 1.10 - 1.17 (6H, m)

Mass spectrometric value (ESI-MS) 565 (M-1)

Compound 962 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-benzamide

The title compound 962 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.96 - 12.05 (1H, m), 11.71 (1H, d, J = 15.1 Hz), 8.80 (1H, s), 8.32 (2H, bs), 8.13 (1H, d, J = 7.8 Hz), 7.57 - 7.94 (4H, m), 7.25 - 7.46 (5H, m), 7.08 (2H, d, J = 8.0 Hz), 3.50 - 4.20 (5H, m), 2.30 - 2.86 (4H, m), 1.13 (3H, d, J = 6.1 Hz), 1.09 (3H, d, J = 6.3 Hz)

Mass spectrometric value (ESI-MS) 639, 641, 642 (M-1)

Compound 963 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-benzamide

The title compound 963 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.95 (1H, bs), 10.86 - 11.00 (1H, m), 8.80 - 8.90 (1H, m), 8.05 - 8.30 (3H, m), 7.85 - 7.95 (1H, m), 7.60 - 7.65 (3H, m), 7.22 - 7.48 (4H, m), 7.06 - 7.18 (1H, m), 6.59 (1H, d, J = 8.5 Hz), 3.50 - 3.96 (8H, m), 2.40 - 2.70 (4H, m), 1.10 (3H, d, J = 6.1 Hz), 1.06 (3H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 567 (M-1) 591 (M+23)

Compound 964 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3-fluoro-

benzylidene-hydrazinocarbonyl)-pyridin-2-yl]-benzamide

The title compound 964 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.55 - 8.60 (1H, m), 8.29 (1H, s), 8.25 (1H, d, J = 7.8 Hz), 8.07 (1H, s), 7.89 - 7.96 (1H, m), 7.70 (1H, d, J = 10.0 Hz), 7.62 (1H, d, J = 7.6 Hz), 7.57 (1H, d, J = 7.3 Hz), 7.40 - 7.52 (2H, m), 7.32 - 7.40 (1H, m), 7.13 - 7.20 (1H, m), 3.60 - 3.95 (4H, m), 2.35 - 2.60 (4H, m), 1.08 (3H, d, J = 6.1 Hz), 1.07 (3H, d, J = 6.3 Hz)

Mass spectrometric value (ESI-MS) 506, 507, 508 (M-1)

10 Compound 965 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-pyridin-2-yl]-benzamide

The title compound 965 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.54 - 8.59 (1H, m), 8.21 - 8.28 (2H, m), 15 8.05 - 8.09 (1H, m), 7.86 - 7.95 (1H, m), 7.72 (2H, d, J = 7.8 Hz), 7.62 (1H, d, J = 7.8 Hz), 7.49 (1H, ddd, J = 1.7 Hz, J = 7.6 Hz, J = 7.6 Hz), 7.32 - 7.37 (1H, m), 7.25 (2H, d, J = 7.8 Hz), 3.81 - 3.93 (4H, m), 2.39 - 2.60 (4H, m), 2.37 (3H, s), 1.08 (3H, d, J = 6.1 Hz), 1.07 (3H, d, J = 6.4 Hz)

20 Mass spectrometric value (ESI-MS) 502, 503, 504 (M-1) 526, 527 (M+23)

Compound 966 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-pyridin-2-yl]-benzamide

25 The title compound 966 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.50 - 8.60 (1H, m), 8.23 - 8.28 (2H, m), 8.05 - 8.08 (1H, m), 7.88 - 7.98 (1H, m), 7.60 - 7.66 (2H, m), 7.46 - 7.56 (2H, m), 7.25 - 7.40 (1H, m), 7.18 - 7.22 (1H, m), 3.75 - 3.94 (4H, m), 2.38 - 2.60 (4H, m), 2.31 (3H, s), 2.30 (3H, s), 1.08 (3H, d, J = 6.1 Hz), 30 1.07 (3H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 516, 517 (M-1) 540, 541 (M+23)

Compound 967 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-pyridin-2-yl]-benzamide

35 The title compound 967 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.70 - 11.85 (1H, m), 11.61 (1H, s), 8.58



(1H, s), 8.36 (1H, s), 8.24 (1H, s), 8.00 - 8.10 (2H, m), 7.80 - 7.90 (1H, m), 7.40 - 7.55 (4H, m), 6.75 - 6.85 (1H, m), 3.86 - 4.10 (4H, m), 2.45 - 2.75 (4H, m), 1.10 (6H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 592 (M-1) 614 (M+23)

5 Compound 968 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-pyridin-2-yl]-benzamide

The title compound 968 was produced in substantially the same manner as in Example P.

10 <sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.74 (1H, s), 11.00 - 11.20 (1H, m), 8.40 - 8.45 (1H, m), 8.22 (1H, d, J = 12.4 Hz), 8.06 (1H, s), 7.80 - 7.90 (3H, m), 7.35 - 7.50 (3H, m), 6.80 - 7.00 (3H, m), 3.80 - 3.90 (7H, m), 2.40 - 2.75 (4H, m), 1.05 - 1.14 (6H, m)

Mass spectrometric value (ESI-MS) 518 (M-1) 542 (M+23)

15 Compound 969 N-[3-(3-Fluoro-benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 969 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.15 (1H, s), 10.91 (1H, bs), 7.10 - 8.90 (15H, m), 3.60 - 3.75 (4H, m), 2.00 - 2.85 (11H, m)

20 Mass spectrometric value (ESI-MS) 552, 553 (M-1)

Compound 970 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-benzamide

The title compound 970 was produced in substantially the same manner as in Example P.

25 <sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.19 (1H, s), 7.00 - 8.95 (15H, m), 3.63 (2H, s), 3.59 (2H, t, J = 5.4 Hz), 2.50 - 2.65 (10H, m), 2.40 (3H, s)

Mass spectrometric value (ESI-MS) 548, 549, 550 (M-1)

Compound 971 N-[3-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

30 The title compound 971 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.19 (1H, s), 7.00 - 9.00 (14H, m), 3.63 (2H, s), 3.59 (2H, t, J = 5.4 Hz), 2.50 - 2.75 (10H, m), 2.32 (3H, s), 2.30 (3H, s)

35 Mass spectrometric value (ESI-MS) 562, 563 (M-1)

Compound 972 N-[3-(4-Chloro-3-trifluoromethyl-benzylidene-

hydrazinocarbonyl)-naphthalen-2-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 972 was produced in substantially the same manner as in Example P.

5 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.19 (1H, s), 8.97 (1H, s), 7.20 - 8.60 (13H, m), 3.64 (2H, s), 3.57 - 3.63 (2H, m), 2.50 - 2.60 (10H, m)

Mass spectrometric value (ESI-MS) 636, 637 (M-1)

Compound 973 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[3-(4-methoxy-benzylidene-hydrazinocarbonyl)-naphthalen-2-yl]-benzamide

10 The title compound 973 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.25 (1H, s), 10.47 (1H, s), 8.88 (1H, s), 8.48 (1H, s), 7.97 (2H, bs), 7.82 (2H, d, J = 8.3 Hz), 7.74 (1H, d, J = 7.3 Hz), 7.63 (1H, d, J = 8.5 Hz), 7.53 (1H, d, J = 7.6 Hz), 7.38 - 7.43 (3H, m), 7.10 - 7.20 (1H, m), 6.96 (2H, d, J = 8.3 Hz), 3.86 (3H, s), 3.62 (2H, s), 3.59 (2H, t, J = 5.4 Hz), 2.50 - 2.60 (10H, m)

Mass spectrometric value (ESI-MS) 564, 565 (M-1)

Compound 974 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-(3-fluoro-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

20 The title compound 974 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 8.91 (1H, s), 7.95 - 8.27 (5H, m), 7.00 - 7.70 (6H, m), 3.82 - 4.08 (4H, m), 2.40 - 2.75 (4H, m), 1.10 - 1.17 (6H, m)

25 Mass spectrometric value (ESI-MS) 511, 512 (M-1) 534 (M+23)

Compound 975 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-(3-methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 975 was produced in substantially the same manner as in Example 8.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.99 (1H, s), 11.28 - 11.38 (1H, m), 8.36 (1H, s), 7.95 - 8.20 (4H, m), 7.68 - 7.73 (1H, m), 7.35 - 7.45 (1H, m), 7.15 - 7.34 (2H, m), 6.87 - 6.97 (2H, m), 4.10 - 4.20 (1H, m), 3.85 - 4.00 (3H, m), 3.65 - 3.75 (1H, m), 2.62 - 2.85 (1H, m), 2.30 - 2.58 (4H, m), 2.15 (3H, s), 1.14 (3H, d, J = 6.1 Hz), 1.08 (3H, d, J = 6.3 Hz)

35 Mass spectrometric value (ESI-MS) 507, 508 (M-1) 531 (M+23)

Compound 976 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-(4-

methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 976 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 8.99 (1H, s), 7.95 - 8.30 (4H, m), 7.30 - 7.70 (4H, m), 7.26 (1H, d, J = 6.1 Hz), 7.13 (2H, d, J = 7.1 Hz), 3.38 - 4.05 (4H, m), 2.34 - 2.70 (7H, m), 1.08 - 1.15 (6H, m)

Mass spectrometric value (ESI-MS) 507, 508 (M-1) 531 (M+23)

Compound 977 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

10 The title compound 977 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.98 (1H, s), 11.12 - 11.25 (1H, m), 8.30 - 8.40 (1H, m), 7.96 - 8.18 (4H, m), 7.70 - 7.80 (1H, m), 7.20 - 7.50 (3H, m), 6.75 - 6.85 (1H, m), 3.65 - 4.20 (4H, m), 2.45 - 2.55 (2H, m), 2.20 - 2.30 (3H, m), 2.10 - 2.14 (3H, m), 2.02 - 2.08 (3H, m), 1.14 (3H, d, J = 6.1 Hz), 1.08 (3H, d, J = 6.3 Hz)

Mass spectrometric value (ESI-MS) 521, 522 (M-1) 545 (M+23)

Compound 978 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-

20 benzamide

The title compound 978 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.85 (1H, d, J = 5.1 Hz), 11.65 - 11.80 (1H, m), 8.28 - 8.35 (1H, m), 7.98 - 8.20 (3H, m), 7.65 - 7.85 (2H, m), 7.02 - 7.52 (4H, m), 3.60 - 4.20 (4H, m), 2.46 - 2.90 (4H, m), 1.14 (3H, d, J = 6.1 Hz), 1.09 (3H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 595, 597 (M-1) 619, 621 (M+23)

Compound 979 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-(4-methoxy-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

30 The title compound 979 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 12.03 (1H, d, J = 10.5 Hz), 11.16 - 11.30 (1H, m), 8.30 - 8.40 (1H, m), 7.95 - 8.15 (3H, m), 7.75 (1H, dd, J = 3.2 Hz, J = 7.6 Hz), 7.36 - 7.44 (3H, m), 7.28 - 7.32 (1H, m), 6.45 - 6.57 (2H, m), 3.65 - 4.20 (7H, m), 2.44 - 2.84 (4H, m), 1.13 (3H, d, J = 6.1 Hz), 1.07 (3H, d, J = 6.4 Hz)

Mass spectrometric value (ESI-MS) 523, 524 (M-1) 547 (M+23)

Compound 980 N-[4-(3-Fluoro-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 980 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 8.26 (1H, s), 7.97 (1H, s), 7.87 (1H, d, J = 7.8 Hz), 7.00 - 7.54 (8H, m), 3.59 - 3.66 (4H, m), 2.50 - 2.75 (10H, m)

Mass spectrometric value (ESI-MS) 508, 509 (M-1) 532 (M+23)

Compound 981 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[4-(4-methyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 981 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.81 (1H, bs), 11.50 (1H, bs), 8.24 (1H, s), 7.95 (1H, s), 7.87 (2H, d, J = 7.6 Hz), 7.37 - 7.70 (5H, m), 7.18 - 7.25 (2H, m), 3.58 (4H, s), 2.37 (3H, s), 2.40 - 2.55 (10H, m)

Mass spectrometric value (ESI-MS) 504, 505 (M-1) 528 (M+23)

Compound 982 N-[4-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 982 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 8.22 - 8.28 (1H, m), 7.95 (1H, s), 7.87 (1H, d, J = 7.6 Hz), 7.30 - 7.56 (6H, m), 7.10 - 7.20 (1H, m), 3.57 (4H, s), 2.40 - 2.60 (10H, m), 2.28 (6H, s)

Mass spectrometric value (ESI-MS) 518, 519 (M-1) 542 (M+23)

Compound 983 N-[4-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

The title compound 983 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCL<sub>3</sub>, 400 MHz): δ 11.39 (1H, bs), 8.22 (1H, s), 7.82 - 8.00 (5H, m), 7.40 - 7.60 (4H, m), 3.55 - 3.62 (4H, m), 2.45 - 2.60 (10H, m)

Mass spectrometric value (ESI-MS) 592, 594 (M-1) 616 (M+23)

Compound 984 3-[4-(2-Hydroxy-ethyl)-piperazin-1-ylmethyl]-N-[4-(4-methoxy-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 984 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.86 (1H, bs), 11.51 (1H, bs), 8.25 (1H, d, J = 3.4 Hz), 7.95 (1H, s), 7.87 (2H, d, J = 7.3 Hz), 7.55 - 7.75 (2H, m), 7.49 (1H, d, J = 7.3 Hz), 7.41 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.20 - 7.28 (1H, m), 6.85 - 7.30 (2H, m), 3.83 (3H, s), 3.58 (4H, s), 2.45 - 2.60 (10H, m)

Mass spectrometric value (ESI-MS) 520, 521 (M-1)

Compound 985 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-fluoro-phenyl]-benzamide

The title compound 985 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.30 - 12.40 (1H, m), 8.55 - 8.65 (1H, m), 8.24 - 8.32 (1H, m), 8.14 (1H, s), 7.92 - 8.00 (1H, m), 7.56 (1H, s), 7.39 (1H, dd, J = 7.3 Hz, J = 7.3 Hz), 7.31 (1H, s), 7.16 - 7.28 (2H, m), 6.92 - 7.02 (1H, m), 6.76 - 6.86 (1H, m), 3.80 - 4.15 (4H, m), 3.55 - 3.65 (1H, m), 2.40 - 2.75 (4H, m), 2.14 (3H, s), 2.06 (3H, s), 1.10 (3H, d, J = 6.4 Hz), 1.06 (3H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 533, 534 (M-1)

Compound 986 2-(3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-benzoylamino)-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-fluoro-phenyl]-5-fluoro-benzamide

The title compound 986 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.95 - 12.05 (1H, m), 11.16 (1H, bs), 10.93 (1H, bs), 8.75 - 8.85 (1H, m), 8.20 - 8.40 (1H, m), 7.20 - 8.10 (11H, m), 6.92 - 7.05 (1H, m), 3.70 - 3.95 (4H, m), 2.35 - 2.60 (4H, m), 2.12 - 2.21 (6H, m), 0.96 - 1.02 (6H, m)

Mass spectrometric value (ESI-MS) 670 (M-1)

Compound 987 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[4-fluoro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 987 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.60 - 8.66 (1H, m), 8.35 (1H, s), 8.09 (1H, d, J = 5.9 Hz), 7.95 (1H, d, J = 8.0 Hz), 7.38 - 7.83 (7H, m), 7.15 - 7.28 (1H, m), 3.80 - 4.10 (4H, m), 2.58 - 2.75 (4H, m), 1.12 (3H, d, J = 6.1 Hz), 1.11 (3H, d, J = 6.4 Hz)

Mass spectrometric value (ESI-MS) 523, 524 (M-1) 547 (M+23)

Compound 988 2-(3-{{Bis-(2-hydroxy-propyl)-amino}-methyl}-benzoylamino)-5-fluoro-N-[4-fluoro-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 988 was produced in substantially the same manner as in Example P.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.52 - 8.67 (1H, m), 8.32 - 8.40 (1H, m), 8.27 (1H, s), 7.36 - 8.08 (11H, m), 7.13 - 7.20 (1H, m), 3.60 - 3.95 (4H, m), 2.38 - 2.57 (4H, m), 1.02 - 1.10 (6H, m)

Mass spectrometric value (ESI-MS) 660, 661 (M-1) 684 (M+23)

10 Compound 989 3-{{Bis-(2-hydroxy-propyl)-amino}-methyl}-N-[4-fluoro-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 989 was produced in substantially the same manner as in Example P.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.60 - 8.67 (1H, m), 8.31 (1H, s), 8.02 - 8.07 (1H, m), 7.87 - 7.92 (1H, m), 7.75 (2H, d, J = 7.8 Hz), 7.67 (1H, dd, J = 2.7 Hz, J = 9.0 Hz), 7.61 (1H, d, J = 7.3 Hz), 7.50 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.36 - 7.43 (1H, m), 7.26 (2H, d, J = 7.8 Hz), 3.65 - 3.95 (4H, m), 2.40 - 2.60 (4H, m), 2.38 (3H, s), 1.09 (3H, d, J = 6.1 Hz), 1.08 (3H, d, J = 6.1 Hz)

20 Mass spectrometric value (ESI-MS) 519, 520 (M-1) 543 (M+23)

Compound 990 3-{{Bis-(2-hydroxy-propyl)-amino}-methyl}-N-[4-fluoro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 990 was produced in substantially the same manner as in Example P.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.61 - 8.67 (1H, m), 8.29 (1H, s), 8.03 - 8.07 (1H, m), 7.87 - 7.92 (1H, m), 7.81 (2H, d, J = 8.5 Hz), 7.66 (1H, dd, J = 2.7 Hz, J = 9.3 Hz), 7.61 (1H, d, J = 7.1 Hz), 7.50 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.38 - 7.42 (1H, m), 6.99 (2H, d, J = 8.8 Hz), 3.82 - 3.93 (4H, m), 3.84 (3H, s), 2.40 - 2.60 (4H, m), 1.09 (3H, d, J = 6.4 Hz), 1.08 (3H, d, J = 6.1 Hz)

30 Mass spectrometric value (ESI-MS) 535, 536, 537 (M-1) 559 (M+23)

Compound 991 N-[5-Tert-butyl-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-3-[4-(2-hydroxy-ethyl)-piperazin-1-ylmethyl]-benzamide

35 The title compound 991 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.15 (1H, s), 7.99 (1H, s), 7.88 - 7.97 (2H, m), 7.70 (1H, s), 7.60 (1H, d, J = 7.3 Hz), 7.44 - 7.55 (2H, m), 7.20 (1H, d, J = 7.8 Hz), 3.64 - 3.70 (4H, m), 2.53 - 2.70 (10H, m), 2.32 (3H, s), 2.31 (3H, s), 1.50 (9H, s)

5 Mass spectrometric value (ESI-MS) 574, 575, 576 (M-1)

Compound 992 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 992 was produced in substantially the same manner as in Example 8.

10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.26 - 8.34 (1H, m), 7.15 - 8.13 (10H, m), 3.80 - 4.08 (4H, m), 2.55 - 2.70 (4H, m), 1.13 (3H, d, J = 6.1 Hz), 1.12 (3H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 511, 512, 513 (M-1)

Compound 993 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-[2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 993 was produced in substantially the same manner as in Example 8.

20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.19 - 8.35 (2H, m), 8.00 - 8.09 (3H, m), 7.83 - 7.94 (2H, m), 7.68 (1H, d, J = 8.5 Hz), 7.58 - 7.65 (1H, m), 7.47 - 7.55 (1H, m), 3.65 - 3.98 (4H, m), 2.45 - 2.65 (4H, m), 1.03 - 1.14 (6H, m)

Mass spectrometric value (ESI-MS) 595, 597, 598 (M-1)

Compound 995 3-Diethylaminomethyl-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-thiophen-3-yl]-benzamide

The title compound 995 was produced in substantially the same manner as in Example 8.

30 <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.38 (1H, bs), 9.08 (1H, s), 8.39 (1H, d, J = 5.6 Hz), 7.95 (1H, s), 7.84 (1H, d, J = 8.1 Hz), 7.74 (1H, bs), 7.65 (1H, bs), 7.51 (1H, d, J = 7.6 Hz), 7.30 - 7.46 (4H, m), 7.02 - 7.10 (1H, m), 3.59 (2H, s), 2.48 (4H, q, J = 7.1 Hz), 0.99 (6H, t, J = 7.1 Hz)

Mass spectrometric value (ESI-MS) 451, 452, 453 (M-1)

Compound 996 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-{4-bromo-2-[1-(3-fluoro-phenyl)-ethylidene-hydrazinocarbonyl]-phenyl}-benzamide

35 The title compound 996 was produced in substantially the same manner as in Example 8.

Mass spectrometric value (ESI-MS) 599 (M-1)

Compound 997 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-{4-bromo-2-[1-(4-methoxy-phenyl)-ethylidene-hydrazinocarbonyl]-phenyl}-benzamide

5 The title compound 997 was produced in substantially the same manner as in Example 8.

Mass spectrometric value (ESI-MS) 609, 611 (M-1)

Compound 998 3-[[Bis-(2-hydroxy-propyl)-amino]-methyl]-N-{4-chloro-2-[4-(3-dimethylamino-propoxy)-benzylidene-hydrazinocarbonyl]-phenyl}-benzamide

10 The title compound 998 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.67 - 8.70 (1H, m), 8.30 (1H, s), 8.06 (1H, s), 7.88 - 7.94 (2H, m), 7.79 - 7.84 (2H, m), 7.59 - 7.64 (2H, m), 7.47 - 7.54 (1H, m), 6.96 - 7.02 (2H, m), 4.08 (2H, t, J = 6.1 Hz), 3.82 -  
15 3.95 (4H, m), 2.40 - 2.60 (6H, m), 2.30 - 2.34 (6H, s), 1.95 - 2.05 (2H, m), 1.09 (3H, d, J = 6.4 Hz), 1.08 (3H, d, J = 6.1 Hz)

Mass spectrometric value (ESI-MS) 622 (M-1)

Compound 999 N-{4-Chloro-2-[4-(3-dimethylamino-propoxy)-benzylidene-hydrazinocarbonyl]-phenyl}-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide  
20

The title compound 999 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.58 (1H, bs), 8.54 (1H, d, J = 9.3 Hz), 8.26 (1H, s), 7.95 (1H, s), 7.86 (1H, d, J = 7.8 Hz), 7.72 (2H, d, J = 7.6  
25 Hz), 7.50 - 7.56 (2H, m), 7.38 - 7.45 (2H, m), 6.91 (2H, d, J = 8.8 Hz), 4.03 (2H, t, J = 6.5 Hz), 3.60 (2H, s), 2.47 - 2.65 (8H, m), 2.43 (2H, t, J = 7.2 Hz), 2.23 (6H, s), 2.22 (3H, s), 1.94 (2H, tt, J = 6.8 Hz, J = 6.8 Hz), 0.99 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 619, 620 (M-1)

30 Compound 1000 (4-[[5-Chloro-2-(3-[[2-diethylamino-ethyl)-methyl-amino]-methyl)-benzoylamino)-benzoyl]-hydrazinomethyl)-phenoxy)-acetic acid

The title compound 1000 was produced in substantially the same manner as in Example 8.

35 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.62 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.89 - 8.00 (3H, m), 7.74 (2H, d, J = 8.8 Hz), 7.51 - 7.65 (3H, m), 6.98



(2H, d, J = 8.8 Hz), 4.44 (2H, s), 3.72 (2H, s), 3.21 (2H, t, J = 6.1 Hz), 3.07 (4H, q, J = 7.3 Hz), 2.74 (2H, t, J = 6.1 Hz), 2.32 (3H, s), 1.20 (6H, t, J = 7.3 Hz)

Mass spectrometric value (ESI-MS) 592, 594 (M-1) 618, 619 (M+23)

- 5 Compound 1001 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[3-(4-trifluoromethoxy-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 1001 was produced in substantially the same manner as in Example 8.

- 10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.30 (1H, s), 7.90 - 8.03 (4H, m), 7.58 - 7.64 (1H, m), 7.50 - 7.57 (1H, m), 7.32 - 7.38 (2H, m), 3.67 (2H, s), 2.88 (4H, bs), 2.72 - 2.82 (6H, m), 2.58 - 2.66 (2H, m), 2.29 (3H, s), 1.83 - 1.95 (4H, m), 1.09 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 628, 629, 630 (M-1)

- 15 Compound 1002 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[3-[4-(2-hydroxy-ethoxy)-benzylidene-hydrazinocarbonyl]-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 1002 was produced in substantially the same manner as in Example 8.

- 20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.22 (1H, s), 7.70 - 8.00 (4H, m), 7.58 - 7.69 (1H, m), 7.50 - 7.57 (1H, m), 7.02 (2H, d, J = 8.8 Hz), 4.10 (2H, t, J = 4.6 Hz), 3.89 (2H, t, J = 4.8 Hz), 3.67 (2H, s), 2.80 - 2.90 (4H, m), 2.66 - 2.78 (6H, m), 2.60 (2H, t, J = 7.0 Hz), 2.28 (3H, s), 1.80 - 1.95 (4H, m), 1.08 (6H, t, J = 7.2 Hz)

- 25 Mass spectrometric value (ESI-MS) 604, 605, 606 (M-1)

Compound 1003 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[3-[1-(3-fluoro-phenyl)-ethylidene-hydrazinocarbonyl]-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

- 30 The title compound 1003 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 7.85 - 7.98 (2H, m), 7.68 - 7.80 (2H, m), 7.47 - 7.62 (2H, m), 7.40 - 7.47 (1H, m), 7.10 - 7.20 (1H, m), 3.66 (2H, s), 2.95 (2H, bs), 2.55 - 2.85 (10H, m), 2.35 (3H, s), 2.28 (3H, s), 1.87 - 1.93 (4H, m), 1.05 (6H, t, J = 7.2 Hz)

- 35 Mass spectrometric value (ESI-MS) 576, 577, 578 (M-1) 600, 601 (M+23)

Compound 1004 Quinoxaline-2-carboxylic acid [4-chloro-2-(3-fluorobenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 1004 was produced in substantially the same manner as in Example 1).

- 5 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 12.65 (1H, s), 12.30 (1H, s), 9.61 (1H, s), 8.75 (1H, d, J = 8.8 Hz), 8.47 (1H, s), 8.20 - 8.33 (2H, m), 8.00 - 8.10 (3H, m), 7.79 (1H, d, J = 8.6 Hz), 7.50 - 7.67 (3H, m), 7.28 - 7.38 (1H, m)  
Mass spectrometric value (ESI-MS) 446, 448 (M-1)

10 Compound 1005 Quinoxaline-2-carboxylic acid [4-chloro-2-(3,4-dimethylbenzylidene-hydrazinocarbonyl)-phenyl]-amide

The title compound 1005 was produced in substantially the same manner as in Example 1).

- <sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.52 (1H, bs), 9.68 (1H, s), 9.46 (1H, bs), 8.70 - 8.80 (1H, bs), 8.12 - 8.20 (2H, m), 7.82 - 7.88 (3H, m), 7.40 - 7.70  
15 (3H, m), 7.12 (1H, d, J = 7.8 Hz), 2.26 (3H, s), 2.20 (3H, s)  
Mass spectrometric value (ESI-MS) 456, 458 (M-1)

Compound 1006 Quinoxaline-2-carboxylic acid[4-chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-amide

- 20 The title compound 1006 was produced in substantially the same manner as in Example 1).

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 12.57 (1H, s), 12.44 (1H, s), 9.61 (1H, s), 8.73 (1H, d, J = 8.8 Hz), 8.51 (1H, s), 8.20 - 8.32 (3H, m), 7.98 - 8.14 (4H, m), 7.85 (1H, d, J = 8.5 Hz), 7.79 (1H, d, J = 9.0 Hz)  
Mass spectrometric value (ESI-MS) 530, 532 (M-1)

25 Compound 1007 N-[4-Chloro-2-(3-fluorobenzylidene-hydrazinocarbonyl)-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-benzamide

The title compound 1007 was produced in substantially the same manner as in Example 8.

- 30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 8.8 Hz), 8.36 (1H, s), 7.97 (1H, s), 7.94 (1H, d, J = 2.4 Hz), 7.87 (1H, d, J = 7.8 Hz), 7.71 (1H, d, J = 9.5 Hz), 7.60 - 7.66 (3H, m), 7.40 - 7.54 (2H, m), 7.15 - 7.25 (1H, m), 3.90 (2H, s), 3.70 - 3.80 (1H, m), 3.48 - 3.60 (2H, m), 2.64 (1H, dd, J = 5.6 Hz, J = 13.7 Hz), 2.51 (1H, dd, J = 6.8 Hz, J = 13.4 Hz)  
35 Mass spectrometric value (ESI-MS) 514, 516 (M-1)

Compound 1008 N-[4-Chloro-2-(4-methyl-benzylidene-

hydrazinocarbonyl)-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-benzamide

The title compound 1008 was produced in substantially the same manner as in Example 8.

5 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.65 (1H, d, J = 9.0 Hz), 8.36 (1H, s), 7.97 (1H, s), 7.93 (1H, d, J = 2.5 Hz), 7.87 (1H, d, J = 7.6 Hz), 7.74 (2H, d, J = 8.3 Hz), 7.62 (2H, dd, J = 2.4 Hz, J = 9.0 Hz), 7.51 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.27 (2H, d, J = 8.1 Hz), 3.90 (2H, s), 3.70 - 3.80 (1H, m), 3.50 - 3.61 (2H, m), 2.63 (1H, dd, J = 5.6 Hz, J = 13.6 Hz), 2.50 (1H, dd, J = 6.8 Hz, 13.6 Hz), 2.38 (3H, s)

Mass spectrometric value (ESI-MS) 510, 512, 513 (M-1)

Compound 1009 N-[4-Chloro-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-benzamide

15 The title compound 1009 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 7.97 (1H, bs), 7.93 (1H, d, J = 2.4 Hz), 7.87 (1H, bs), 7.60 - 7.69 (3H, m), 7.48 - 7.58 (2H, m), 7.15 - 7.25 (1H, m), 3.90 (2H, s), 3.70 - 3.80 (1H, m), 20 3.50 - 3.61 (2H, m), 2.63 (1H, dd, J = 5.4 Hz, J = 13.7 Hz), 2.50 (1H, dd, J = 6.8 Hz, J = 13.6 Hz), 2.32 (3H, s), 2.31 (3H, s)

Mass spectrometric value (ESI-MS) 524, 526, 529 (M-1)

Compound 1010 N-[4-Chloro-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-benzamide

25 The title compound 1010 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.63 (1H, d, J = 8.8 Hz), 8.39 (1H, s), 8.30 - 8.34 (1H, m), 8.08 (1H, d, J = 8.3 Hz), 7.96 (1H, bs), 7.94 (1H, d, J = 2.4 Hz), 7.85 - 7.90 (1H, m), 7.70 (1H, d, J = 8.3 Hz), 7.60 - 7.67 (2H, m), 7.68 - 7.55 (1H, m), 3.89 (2H, s), 3.70 - 3.80 (1H, m), 3.48 - 3.60 (2H, m), 2.64 (1H, dd, J = 5.6 Hz, J = 13.7 Hz), 2.50 (1H, dd, J = 7.1 Hz, J = 13.7 Hz)

Mass spectrometric value (ESI-MS) 598, 600, 601, 603 (M-1)

35 Compound 1011 N-[4-Chloro-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-

benzamide

The title compound 1011 was produced in substantially the same manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.66 (1H, d, J = 9.0 Hz), 8.31 (1H, s),  
 5 7.95 - 7.98 (1H, m), 7.92 (1H, d, J = 2.4 Hz), 7.86 - 7.90 (1H, m), 7.81  
 (2H, d, J = 8.8 Hz), 7.60 - 7.65 (2H, m), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7  
 Hz), 7.00 (2H, d, J = 8.8 Hz), 3.90 (2H, s), 3.85 (3H, s), 3.70 - 3.80 (1H,  
 m), 3.50 - 3.61 (2H, m), 2.63 (1H, dd, J = 5.6 Hz, J = 13.6 Hz), 2.51 (1H,  
 dd, J = 6.8 Hz, J = 13.6 Hz)

10 Mass spectrometric value (ESI-MS) 529, 530, 531 (M-1)

Compound 1012 N-[4-Chloro-2-(4-trifluoromethoxy-benzylidene-  
 hydrazinocarbonyl)-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-  
 benzamide

15 The title compound 1012 was produced in substantially the same  
 manner as in Example 8.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.64 (1H, d, J = 9.0 Hz), 8.39 (1H, s),  
 7.93 - 8.01 (4H, m), 7.85 - 7.90 (1H, m), 7.60 - 7.67 (2H, m), 7.51 (1H,  
 dd, J = 7.7 Hz, J = 7.7 Hz), 7.36 (2H, d, J = 8.1 Hz), 3.90 (2H, s), 3.70 -  
 3.80 (1H, m), 3.50 - 3.60 (2H, m), 2.63 (1H, dd, J = 5.8 Hz, J = 13.6 Hz),  
 20 2.51 (1H, dd, J = 6.8 Hz, J = 13.6 Hz)

Mass spectrometric value (ESI-MS) 580, 582, 583 (M-1)

#### Example Q

Compound 1013 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(3-fluoro-  
 benzylidene-hydrazinocarbonyl)-4,5-bis-(2-methoxy-ethoxy)-phenyl]-  
 25 benzamide

3,4-Dihydroxy-benzoic acid ethyl ester (compound A') (2.0 g)  
 was dissolved in acetone (20 ml). Potassium carbonate (4.3 g) and 1-  
 bromo-2-methoxy-ethane (compound D) (5 ml) were added to the  
 solution at room temperature, and the mixture was then stirred at 70°C  
 30 for 24 hr. After the completion of the reaction, the reaction solution was  
 allowed to stand for cooling at room temperature, and the reaction  
 system was concentrated under the reduced pressure. Distilled water  
 was added to the residue, and the mixture was then subjected to  
 separatory extraction with chloroform. The organic layer was washed  
 35 with saturated brine, was dried over sodium sulfate, and was then  
 concentrated under the reduced pressure. The residue was purified by

column chromatography using a hexane-acetone system to give 3,4-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester (3.06 g, yield 93%).

3,4-Bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester (200 mg) produced by the above process was dissolved in acetic acid (200  $\mu$ l).  
5 Fuming nitric acid (200  $\mu$ l) was added dropwise to the solution at 0°C, and the mixture was then stirred at room temperature for one hr. After the completion of the reaction, the reaction system was added dropwise to distilled water (500  $\mu$ l) cooled to 0°C, and the mixture was then neutralized with a saturated aqueous sodium hydrogencarbonate  
10 solution, and was further subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a hexane-acetone system to give 4,5-bis-(2-methoxy-ethoxy)-2-  
15 nitro-benzoic acid ethyl ester as a useful intermediate (220 mg, yield 96%).

Subsequently, 4,5-bis-(2-methoxy-ethoxy)-2-nitro-benzoic acid ethyl ester (3.0 mg) produced by the above process was dissolved in methanol, and platinum oxide (250 mg) was added to the solution at  
20 room temperature. The air in the reaction system was replaced by hydrogen, and the mixture was then stirred for one hr. After the completion of the reaction, the atmosphere in the reaction system was replaced by nitrogen. The reaction solution was filtered through Celite to remove platinum oxide. The filtrate was then concentrated under the  
25 reduced pressure. The residue was purified by column chromatography eluted with a hexane-acetone system to give 2-amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester (compound A) (2.5 g, yield 92%).

2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester  
30 (compound A) (2.5 g) produced by the above process was dissolved in anhydrous methylene chloride (40 ml). Pyridine (1.4 ml) and 3-(chloromethyl)-benzoyl chloride (compound B) (1.3 ml) were added dropwise to the solution at 0°C, and the mixture was stirred at room temperature for 30 min. After the completion of the reaction, distilled  
35 water was added thereto at room temperature, and the mixture was then subjected to separatory extraction with chloroform. The organic layer

was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography using a hexane-acetone system to give 2-(3-chloromethylbenzoylamino)-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester (2.3 g, yield 62%).

Subsequently, 2-(3-chloromethyl-benzoylamino)-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester (1.1 g) was dissolved in anhydrous methylene chloride (20 ml). Triethylamine (800  $\mu$ l) and 3-mercapto-1,2-propanediol (compound B') (600  $\mu$ l) were added dropwise to the solution at room temperature, and the mixture was stirred at that temperature for 36 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was then subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-[3-(2,3-dihydroxy-propylsulfanylmethyl)-benzoylamino]-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester (970 mg, yield 77%).

2-[3-(2,3-Dihydroxy-propylsulfanylmethyl)-benzoylamino]-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester (970 mg) produced by the above process was dissolved in ethanol (10 ml). Hydrazine monohydrate (1 ml) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 36 hr. After the completion of the reaction, the reaction system was then concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-(2,3-dihydroxy-propylsulfanylmethyl)-N-[2-hydrazinocarbonyl-4,5-bis-(2-methoxy-ethoxy)-phenyl]-benzamide (780 mg, yield 83%).

Subsequently, 3-(2,3-dihydroxy-propylsulfanylmethyl)-N-[2-hydrazinocarbonyl-4,5-bis-(2-methoxy-ethoxy)-phenyl]-benzamide (55 mg) produced by the above process was dissolved in anhydrous toluene (1 ml), 3-fluorobenzaldehyde (compound C) (50  $\mu$ l) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for one hr. After the completion of the reaction, the reaction system was concentrated under the reduced

pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 1013 (66 mg, yield 100%).

5  $^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  12.00 (1H, bs), 10.14 (1H, bs), 8.50 (1H, s), 8.16 (1H, s), 7.93 (1H, d,  $J = 7.6$  Hz), 7.60 - 7.78 (2H, m), 7.24 - 7.57 (5H, m), 7.00 - 7.10 (1H, m), 4.20 - 4.28 (2H, m), 4.00 - 4.10 (3H, m), 3.80 - 3.88 (3H, m), 3.75 - 3.80 (2H, m), 3.60 - 3.72 (3H, m), 3.41 (3H, s), 3.38 (3H, s), 2.60 (2H, d,  $J = 6.6$  Hz)

Mass spectrometric value (ESI-MS) 628, 629 (M-1)

10 Compound 1014 N-[4,5-Bis-(2-methoxy-ethoxy)-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-benzamide

The title compound 1014 was produced in substantially the same manner as in Example Q.

15  $^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  12.06 (1H, bs), 9.84 (1H, bs), 8.54 (1H, s), 8.13 (1H, bs), 7.90 - 7.96 (2H, m), 7.77 (1H, s), 7.65 - 7.74 (2H, m), 7.45 - 7.55 (3H, m), 7.18 (1H, d,  $J = 7.8$  Hz), 4.22 - 4.28 (2H, m), 4.00 - 4.14 (3H, m), 3.80 - 3.85 (3H, m), 3.75 - 3.80 (2H, m), 3.62 - 3.70 (3H, m), 3.41 (3H, s), 3.40 (3H, s), 2.58 (2H, d,  $J = 6.4$  Hz), 2.34 (3H, s)

20 Mass spectrometric value (ESI-MS) 624, 625 (M-1)

Compound 1015 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4,5-bis-(2-methoxy-ethoxy)-phenyl]-benzamide

25 The title compound 1015 was produced in substantially the same manner as in Example Q.

$^1\text{H-NMR}$  ( $\text{CDCl}_3$ , 400 MHz):  $\delta$  12.08 (1H, bs), 9.95 (1H, bs), 8.53 (1H, s), 8.11 (1H, bs), 7.93 (1H, d,  $J = 7.6$  Hz), 7.76 - 7.83 (2H, m), 7.60 (1H, bs), 7.45 - 7.57 (3H, m), 7.11 (1H, d,  $J = 7.8$  Hz), 4.23 - 4.28 (2H, m), 4.07 - 4.12 (1H, m), 3.82 - 3.90 (3H, m), 3.75 - 3.80 (2H, m), 3.60 - 3.70 (3H, m), 3.41 (3H, s), 3.39 (3H, s), 2.59 (2H, d,  $J = 6.6$  Hz), 2.29 (2H, d,  $J = 7.4$  Hz), 2.24 (3H, s), 2.23 (3H, s)

Mass spectrometric value (ESI-MS) 638 (M-1)

35 Compound 1016 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5-bis-(2-methoxy-ethoxy)-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-benzamide

The title compound 1016 was produced in substantially the same

manner as in Example Q.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 12.07 (1H, s), 10.69 (1H, s), 8.40 (1H, s), 8.15 (1H, s), 8.07 (1H, s), 7.93 (1H, d, J = 7.1 Hz), 7.73 - 7.77 (1H, m), 7.71 (1H, s), 7.46 - 7.56 (2H, m), 7.38 (1H, d, J = 8.3 Hz), 7.33 (1H, s),  
 5 4.60 (1H, bs), 4.18 - 4.23 (2H, m), 3.97 - 4.08 (3H, m), 3.74 - 3.95 (5H, m), 3.62 - 3.72 (1H, m), 3.58 (2H, t, J = 9.0 Hz), 3.40 (3H, s), 3.37 (3H, s), 2.58 - 2.72 (2H, m)

Mass spectrometric value (ESI-MS) 712, 715 (M-1)

#### Example R

10 Compound 1017 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(3-fluorobenzylidene-hydrazinocarbonyl)-4-methoxy-phenyl]-benzamide

5-Methoxy-2-nitro-benzoic acid (2.5 g) was dissolved in N,N-dimethylformamide (compound A') (40 ml). Potassium carbonate (4.5 g) and methyl iodide (2.5 ml) were added to the solution at room  
 15 temperature, and the mixture was then stirred at that temperature for 30 min. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was then subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then  
 20 concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a hexane-acetone system to give 5-methoxy-2-nitrobenzoic acid methyl ester (2.7 g, yield 100%).

Subsequently, 5-methoxy-2-nitro-benzoic acid methyl ester (2.7 g) produced by the above process was dissolved in methanol (20 ml),  
 25 and platinum oxide (180 mg) was added to the solution at room temperature. The air in the reaction system was replaced by hydrogen, the mixture was then stirred at that temperature for 5 hr. After the completion of the reaction, the atmosphere in the reaction system was replaced by nitrogen, and the reaction solution was then filtered through  
 30 Celite to remove platinum oxide. The filtrate was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a hexane-acetone system to give 2-amino-5-methoxy-benzoic acid methyl ester (compound A) (2.2 g, yield 96%).

2-Amino-5-methoxy-benzoic acid methyl ester (compound A) (2.2  
 35 g) produced by the above process was dissolved in anhydrous methylene chloride (40 ml), pyridine (1.5 ml) and 3-



(chloromethyl)benzoyl chloride (compound B) (2.1 ml) was added dropwise to the solution at 0°C, and the mixture was then stirred at room temperature for 15 min. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was then subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to precipitate crystals. The crude crystals were collected by Kiriyaama Rohto and was washed with ether to give 2-(3-chloromethyl-benzoylamino)-5-methoxybenzoic acid methyl ester (3.0 g, yield 75%).

Subsequently, 2-(3-chloromethyl-benzoylamino)-5-methoxybenzoic acid methyl ester (1.0 g) produced by the above process was dissolved in anhydrous methylene chloride (10 ml). Triethylamine (1 ml) and 3-mercapto-1,2-propanediol (compound B') (1 ml) were added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 36 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was then subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-[3-(2,3-dihydroxypropanesulfanylmethyl)-benzoylamino]-5-methoxybenzoic acid methyl ester as a useful intermediate (1.2 g, yield 100%).

2-[3-(2,3-Dihydroxypropanesulfanylmethyl)-benzoylamino]-5-methoxybenzoic acid methyl ester (1.2 g) produced by the above process was dissolved in ethanol (20 ml). Hydrazine monohydrate (1.3 ml) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, the reaction system was then concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-(2,3-dihydroxy-propylsulfanylmethyl)-N-(2-hydrazinocarbonyl-4-methoxyphenyl)benzamide (840 mg, yield 65%).

Subsequently, 3-(2,3-dihydroxy-propylsulfanylmethyl)-N-(2-hydrazinocarbonyl-4-methoxy-phenyl)benzamide (61 mg) produced by

the above process was dissolved in anhydrous toluene (1.5 ml). 3-Fluorobenzaldehyde (compound C) (50  $\mu$ l) was added dropwise to the solution at room temperature, and the mixture was then stirred at 40°C for 12 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 1017 (59 mg, 77%).

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz):  $\delta$  8.42 (1H, d, J = 9.3 Hz), 8.34 (1H, s), 7.95 (1H, s), 7.85 (1H, d, J = 7.8 Hz), 7.70 (1H, d, J = 10.2 Hz), 7.58 - 7.62 (2H, m), 7.40 - 7.52 (3H, m), 7.12 - 7.25 (2H, m), 3.90 (3H, s), 3.89 (2H, s), 3.70 - 3.78 (1H, m), 3.48 - 3.60 (2H, m), 2.63 (1H, dd, J = 5.6 Hz, J = 13.7 Hz), 2.50 (1H, dd, J = 6.8 Hz, J = 13.4 Hz)

Mass spectrometric value (ESI-MS) 510, 511 (M-1) 534 (M+23)

Compound 1018 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[4-methoxy-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 1018 was produced in substantially the same manner as in Example R.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz):  $\delta$  8.44 (1H, d, J = 9.0 Hz), 8.32 (1H, s), 7.95 (1H, s), 7.83 - 7.89 (1H, m), 7.74 (2H, d, J = 8.1 Hz), 7.60 (1H, d, J = 7.8 Hz), 7.49 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.41 (1H, d, J = 2.9 Hz), 7.19 - 7.29 (3H, m), 3.90 (3H, s), 3.89 (2H, s), 3.70 - 3.78 (1H, m), 3.48 - 3.61 (2H, m), 2.63 (1H, dd, J = 5.9 Hz, J = 13.7 Hz), 2.50 (1H, dd, J = 6.8 Hz, J = 13.7 Hz), 2.38 (3H, s)

Mass spectrometric value (ESI-MS) 506, 507 (M-1)

Compound 1019 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-methoxy-phenyl]-benzamide

The title compound 1019 was produced in substantially the same manner as in Example R.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz):  $\delta$  8.44 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.95 (1H, s), 7.86 (1H, d, J = 7.6 Hz), 7.66 (1H, s), 7.60 (1H, d, J = 7.8 Hz), 7.54 (1H, d, J = 7.3 Hz), 7.49 (1H, dd, J = 7.9 Hz, J = 7.9 Hz), 7.41 (1H, d, J = 2.9 Hz), 7.15 - 7.25 (2H, m), 3.90 (3H, s), 3.89 (2H, s), 3.70 - 3.80 (1H, m), 3.49 - 3.60 (2H, m), 2.63 (1H, dd, J = 5.6 Hz, J = 13.7 Hz), 2.50 (1H, dd, J = 7.1 Hz, J = 13.7 Hz), 2.31 (3H, s), 2.30 (3H, s)

Mass spectrometric value (ESI-MS) 520 (M-1)

Compound 1020 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-

hydrazinocarbonyl)-4-methoxy-phenyl]-3-(2,3-dihydroxy-propylsulfanylmethyl)-benzamide

The title compound 1020 was produced in substantially the same manner as in Example R.

5 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.41 (1H, d, J = 9.3 Hz), 8.38 (1H, s), 8.32 (1H, bs), 8.05 - 8.15 (1H, m), 7.94 (1H, bs), 7.83 - 7.88 (1H, m), 7.69 (1H, d, J = 8.3 Hz), 7.58 - 7.63 (1H, m), 7.47 - 7.52 (1H, m), 7.42 (1H, d, J = 2.9 Hz), 7.20 - 7.25 (1H, m), 3.90 (3H, s), 3.89 (2H, s), 3.75 - 3.82 (1H, m), 3.45 - 3.60 (2H, m), 2.60 - 2.67 (1H, m), 2.45 - 2.54 (1H, m)

Mass spectrometric value (ESI-MS) 594, 596, 597 (M-1)

Compound 1021 3-(2,3-Dihydroxy-propylsulfanylmethyl)-N-[4-methoxy-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 1021 was produced in substantially the same manner as in Example R.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 9.3 Hz), 8.29 (1H, s), 7.95 (1H, bs), 7.86 (1H, d, J = 7.6 Hz), 7.80 (2H, d, J = 8.8 Hz), 7.60 (1H, d, J = 7.8 Hz), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.40 (1H, d, J = 2.9 Hz), 7.21 (1H, dd, J = 2.9 Hz, J = 9.3 Hz), 6.99 (2H, d, J = 8.8 Hz), 3.90 (3H, s), 3.89 (2H, s), 3.85 (3H, s), 3.70 - 3.80 (1H, m), 3.49 - 3.60 (2H, m), 2.63 (1H, dd, J = 5.6 Hz, J = 13.7 Hz), 2.50 (1H, dd, J = 7.1 Hz, J = 13.4 Hz)

Mass spectrometric value (ESI-MS) 522, 523 (M-1)

25 Compound 1022 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-methoxy-phenyl]-benzamide

The title compound 1022 was produced in substantially the same manner as in Example R.

30 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.42 (1H, d, J = 9.0 Hz), 8.36 (1H, s), 7.14 - 8.00 (10H, m), 3.90 (3H, s), 3.73 (2H, s), 3.25 (2H, t, J = 6.0 Hz), 3.11 (4H, q, J = 7.2 Hz), 2.75 (2H, t, J = 5.9 Hz), 2.35 (3H, s), 1.23 (6H, t, J = 7.3 Hz)

Mass spectrometric value (ESI-MS) 532, 533, 534 (M-1)

35 Compound 1023 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-methoxy-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl-benzamide

The title compound 1023 was produced in substantially the same

manner as in Example R.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.36 - 8.42 (2H, m), 8.33 (1H, s), 8.03 (1H, d, J = 8.5 Hz), 7.96 (1H, s), 7.89 (1H, d, J = 7.8 Hz), 7.69 (1H, d, J = 8.3 Hz), 7.59 (1H, d, J = 7.8 Hz), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz),  
 5 7.42 (1H, d, J = 2.9 Hz), 7.22 (1H, dd, J = 2.9 Hz, J = 9.0 Hz), 3.90 (3H, s), 3.66 (2H, s), 2.70 - 2.77 (2H, m), 2.53 - 2.65 (6H, m), 2.28 (3H, s), 1.03 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 616, 618, 619 (M-1)

• Compound 1024 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-methoxy-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide  
 •

The title compound 1024 was produced in substantially the same manner as in Example R.

15 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.43 (1H, d, J = 9.3 Hz), 8.30 (1H, s), 7.97 (1H, bs), 7.90 (1H, d, J = 8.6 Hz), 7.78 (2H, d, J = 8.8 Hz), 7.58 (1H, d, J = 7.8 Hz), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.40 (1H, d, J = 2.9 Hz), 7.20 (1H, dd, J = 2.9 Hz, J = 9.2 Hz), 6.99 (2H, d, J = 8.8 Hz), 3.89 (3H, s), 3.84 (3H, s), 3.68 (2H, s), 2.85 - 2.92 (2H, m), 2.75 (4H, q, J = 7.1 Hz), 2.62 (2H, t, J = 7.0 Hz), 2.30 (3H, s), 1.08 (6H, t, J = 7.2 Hz)

20 Mass spectrometric value (ESI-MS) 544, 545, 546 (M-1)

#### Example S

Compound 1025 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-(2-methoxy-ethoxy)-phenyl]-benzamide

25 5-Hydroxy-2-nitro-benzoic acid (compound A') (1.5 g) was dissolved in methanol (15 ml). Thionyl chloride (1.5 ml) was added dropwise to the solution on an ice bath, and the mixture was then stirred at 80°C for 12 hr. After the completion of the reaction, the reaction solution was neutralized with a saturated aqueous sodium  
 30 hydrogencarbonate solution, and was then subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to give crude 5-hydroxy-2-nitro-benzoic acid methyl ester (1.1 g, crude yield 70%).

35 Crude 5-hydroxy-2-nitro-benzoic acid methyl ester (1.1 g) produced by the above process was dissolved in acetone (12 ml).

Potassium carbonate (1.5 g) and 1-bromo-2-methoxyethane (compound D) (1.5 ml) were added to the solution at room temperature, and the mixture was then stirred at 70°C for 20 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure. Distilled water was then added to the residue, and the mixture was then subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a hexane-acetone system to give 5-methoxy-ethoxy-2-nitro-benzoic acid methyl ester (1.0 g, yield 73%).

Subsequently, 5-methoxy-ethoxy-2-nitro-benzoic acid methyl ester (1.0 g) produced by the above process was dissolved in methanol (10 ml), and platinum oxide (90 mg) was added to the solution at room temperature. The air in the reaction system was replaced by hydrogen, and the mixture was then stirred at that temperature for 5 hr. After the completion of the reaction, the atmosphere in the reaction system was replaced by nitrogen, and the reaction solution was filtered through Celite to remove platinum oxide. The filtrate was then concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a hexane-ethyl acetate system to give 2-amino-5-methoxy-ethoxybenzoic acid methyl ester (compound A) as a useful intermediate (770 mg, yield 83%).

2-Amino-5-methoxy-ethoxybenzoic acid methyl ester (compound A) (770 mg) produced by the above process was dissolved in anhydrous methylene chloride (10 ml). Pyridine (500  $\mu$ l) and 3-(chloromethyl)benzoyl chloride (compound B) (600  $\mu$ l) were added dropwise to the solution at 0°C, and the mixture was then stirred at room temperature for 3 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was then subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to precipitate crystals. The crude crystals were collected by Kiriyaama Rohto and was washed with ether to give 2-(3-chloromethylbenzoylamino)-5-methoxy-ethoxybenzoic acid methyl ester (1.1 g, yield 89%).

Subsequently, 2-(3-chloromethylbenzoylamino)-5-methoxy-ethoxybenzoic acid methyl ester (1.1 g) produced by the above process was dissolved in anhydrous methylene chloride (15 ml). Triethylamine (1 ml) and N,N-diethyl-N'-methyl-ethylenediamine (compound B') (900  $\mu$ l) were added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-  
 10 {[(2-diethylaminoethyl)-methylamino]-methyl}-benzoylamino)-5-(2-methoxy-ethoxy)-benzoic acid methyl ester as a useful intermediate (1.4 g, yield 100%).

2-(3-{[(2-Diethylamino-ethyl)-methylamino]-methyl}-benzoylamino)-5-(2-methoxy-ethoxy)-benzoic acid methyl ester (1.4 g) produced by the above process was dissolved in ethanol (15 ml). Hydrazine monohydrate (1.5 ml) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure, and the residue was purified  
 20 by column chromatography eluted with a chloroform-methanol system to give 3-{[(2-dimethoxyamino-ethyl)-methyl-amino]-methyl}-N-[2-hydrazinocarbonyl-4-(2-methoxy-ethoxy)-phenyl]-benzamide (1.3 g, yield 89%).

Subsequently, 3-{[(2-dimethoxyamino-ethyl)-methyl-amino]-methyl}-N-[2-hydrazinocarbonyl-4-(2-methoxy-ethoxy)-phenyl]-benzamide (52 mg) produced by the above process was dissolved in anhydrous toluene (1 ml). 3-Fluorobenzaldehyde (compound C) (50  $\mu$ l) was added dropwise to the solution at room temperature, and the mixture was then stirred at 40°C for 3 hr. After the completion of the  
 30 reaction, the reaction solution was allowed to cool at room temperature and was then purified by column chromatography eluted with a chloroform-methanol system to give the title compound 1025 (50 mg, yield 78%).

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz):  $\delta$  8.43 (1H, d, J = 9.0 Hz), 8.36 (1H, s),  
 35 7.99 (1H, s), 7.90 - 7.95 (1H, m), 7.68 - 7.76 (2H, m), 7.08 - 7.64 (6H, m), 4.20 - 4.25 (2H, m), 3.77 - 3.82 (2H, m), 3.73 (2H, s), 3.45 (3H, s), 3.18

(2H, t, J = 6.1 Hz), 3.04 (4H, q, J = 7.2 Hz), 2.73 (2H, t, J = 6.1 Hz), 2.34 (3H, s), 1.20 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 576, 577, 578 (M-1)

Compound 1026 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-(2-methoxy-ethoxy)-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

The title compound 1026 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.43 (1H, d, J = 9.0 Hz), 8.32 (1H, s), 7.97 (1H, s), 7.89 - 7.94 (1H, m), 7.73 (2H, d, J = 8.0 Hz), 7.59 (1H, d, J = 7.3 Hz), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.43 (1H, d, J = 2.9 Hz), 7.21 - 7.30 (3H, m), 4.20 - 4.25 (2H, m), 3.76 - 3.81 (2H, m), 3.68 (2H, s), 3.45 (3H, s), 2.58 - 2.90 (8H, m), 2.38 (3H, s), 2.30 (3H, s), 1.07 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 572, 573, 574 (M-1)

Compound 1027 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(2-methoxy-ethoxy)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl]-benzamide

The title compound 1027 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.41 (1H, d, J = 9.3 Hz), 8.38 (1H, s), 8.33 (1H, s), 8.03 (1H, d, J = 8.3 Hz), 7.96 (1H, s), 7.88 - 7.92 (1H, m), 7.68 (1H, d, J = 8.3 Hz), 7.59 (1H, d, J = 7.8 Hz), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.44 (1H, d, J = 2.9 Hz), 7.24 (1H, dd, J = 2.9 Hz, J = 9.0 Hz), 4.20 - 4.25 (2H, m), 3.76 - 3.80 (2H, m), 3.67 (2H, s), 3.44 (3H, s), 2.81 (2H, t, J = 6.8 Hz), 2.68 (4H, q, J = 7.2 Hz), 2.59 (2H, t, J = 7.1 Hz), 2.29 (3H, s), 1.06 (6H, t, J = 7.3 Hz)

Mass spectrometric value (ESI-MS) 660, 662, 663 (M-1) 684 (M+23)

Compound 1028 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4,5-bis-(2-methoxy-ethoxy)-phenyl]-benzamide

The title compound 1028 was produced in substantially the same manner as in Example Q.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.49 (1H, bs), 8.37 (1H, bs), 8.00 (1H, bs), 7.95 (1H, d, J = 7.3 Hz), 7.85 - 7.90 (1H, m), 7.40 - 7.76 (5H, m), 7.12 - 7.24 (1H, m), 4.22 - 4.32 (4H, m), 3.76 - 3.86 (4H, m), 3.72 (2H, s), 3.46

(3H, s), 3.46 (3H, s), 3.00 - 3.08 (2H, m), 2.82 - 2.96 (4H, m), 2.65 - 2.73 (2H, m), 2.33 (3H, s), 1.12 - 1.20 (6H, m)

Mass spectrometric value (ESI-MS) 650, 651, 652 (M-1) 672, 675 (M+23)

- 5 Compound 1029 N-[4,5-Bis-(2-methoxy-ethoxy)-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 1029 was produced in substantially the same manner as in Example Q.

- 10 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.49 (1H, s), 8.34 (1H, s), 8.00 (1H, s), 7.92 - 7.98 (1H, m), 7.74 (2H, d, J = 8.0 Hz), 7.51 - 7.65 (3H, m), 7.27 (2H, d, J = 8.3 Hz), 4.23 - 4.33 (4H, m), 3.77 - 3.87 (4H, m), 3.71 (2H, s), 3.46 (3H, s), 3.46 (3H, s), 2.60 - 3.00 (8H, m), 2.39 (3H, s), 2.32 (3H, s), 1.10 (6H, t, J = 7.2 Hz)

- 15 Mass spectrometric value (ESI-MS) 646, 647, 648 (M-1)

Compound 1030 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4,5-bis-(2-methoxy-ethoxy)-phenyl]-benzamide

The title compound 1030 was produced in substantially the same manner as in Example Q.

- 20 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.48 (1H, s), 8.31 (1H, s), 8.01 (1H, s), 7.95 (1H, d, J = 7.3 Hz), 7.40 - 7.70 (5H, m), 7.18 - 7.23 (1H, m), 4.23 - 4.32 (4H, m), 3.76 - 3.86 (4H, m), 3.72 (2H, s), 3.45 - 3.80 (6H, m), 2.95 - 3.05 (2H, m), 2.80 - 2.90 (4H, m), 2.67 (2H, t, J = 6.7 Hz), 2.26 - 2.34 (9H, m), 1.12 (6H, t, J = 7.3 Hz)

Mass spectrometric value (ESI-MS) 660, 661, 662 (M-1)

Compound 1031 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4,5-bis-(2-methoxy-ethoxy)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

- 30 The title compound 1031 was produced in substantially the same manner as in Example Q.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 7.40 - 8.50 (10H, m), 4.23 - 4.33 (4H, m), 3.77 - 3.88 (4H, m), 3.74 (2H, s), 3.45 - 3.48 (6H, m), 2.65 - 3.30 (8H, m), 2.35 (3H, s), 1.21 (6H, t, J = 7.2 Hz)

- 35 Mass spectrometric value (ESI-MS) 734, 736, 737 (M-1)

Compound 1032 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[2-



(4-methoxy-benzylidene-hydrazinocarbonyl)-4,5-bis-(2-methoxy-ethoxy)-phenyl]-benzamide

The title compound 1032 was produced in substantially the same manner as in Example Q.

5 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.48 (1H, s), 8.32 (1H, s), 8.01 (1H, s), 7.95 (1H, d, J = 7.3 Hz), 7.79 (2H, d, J = 8.8 Hz), 7.50 - 7.70 (3H, m), 7.00 (2H, d, J = 8.8 Hz), 4.23 - 4.33 (4H, m), 3.76 - 3.88 (7H, m), 3.72 (2H, s), 3.45 - 3.48 (6H, m), 3.05 - 3.10 (2H, m), 2.90 - 3.00 (4H, m), 2.65 - 2.73 (2H, m), 2.33 (3H, s), 1.16 (6H, t, J = 7.2 Hz)

10 Mass spectrometric value (ESI-MS) 662, 663, 664 (M-1)

Compound 1033 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-{2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-[2-(2-methoxy-ethoxy)-ethoxy]-phenyl}-benzamide

15 The title compound 1033 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.36 (1H, bs), 8.48 (1H, bs), 8.21 (1H, s), 7.65 - 7.93 (6H, m), 7.10 - 7.38 (5H, m), 4.12 (2H, bs), 3.78 (2H, bs), 3.63 - 3.67 (4H, m), 3.56 - 3.62 (2H, m), 3.50 - 3.55 (2H, m), 3.28 (3H, s), 3.05 (4H, bs), 2.75 - 2.80 (2H, m), 2.20 - 2.40 (3H, m), 1.15 - 1.25 (6H, m)

20 Mass spectrometric value (ESI-MS) 620, 621, 622 (M-1)

Compound 1034 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[4-[2-(2-methoxy-ethoxy)-ethoxy]-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

25 The title compound 1034 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.37 (1H, bs), 8.49 (1H, d, J = 9.0 Hz), 8.20 (1H, s), 7.84 - 7.90 (2H, m), 7.80 (1H, d, J = 7.6 Hz), 7.60 (2H, d, J = 7.8 Hz), 7.20 - 7.46 (3H, m), 6.98 - 7.20 (3H, m), 4.05 - 4.10 (2H, m), 3.68 - 3.74 (2H, m), 3.61 - 3.65 (2H, m), 3.50 - 3.55 (4H, m), 3.28 (3H, s), 2.50 - 2.70 (8H, m), 2.30 (3H, s), 2.17 (3H, s), 0.95 - 1.04 (6H, m)

30 Mass spectrometric value (ESI-MS) 616, 617, 618 (M-1)

Compound 1035 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-{2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-[2-(2-methoxy-ethoxy)-ethoxy]-phenyl}-benzamide

35 The title compound 1035 was produced in substantially the same

manner as in Example S.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 11.37 (1H, bs), 8.48 (1H, d, J = 9.0 Hz), 8.19 (1H, s), 7.86 (1H, s), 7.80 (1H, d, J = 7.6 Hz), 7.54 (1H, s), 7.20 - 7.46 (4H, m), 6.96 - 7.12 (3H, m), 4.03 - 4.10 (2H, m), 3.69 (2H, bs),  
 5 3.60 - 3.65 (2H, m), 3.50 - 3.55 (4H, m), 3.27 (3H, s), 2.47 - 2.70 (8H, m), 2.21 (6H, s), 2.16 (3H, s), 0.98 (6H, t, J = 7.0 Hz)

Mass spectrometric value (ESI-MS) 630, 631, 632 (M-1)

Compound 1036 N-{2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-[2-(2-methoxy-ethoxy)-ethoxy]-phenyl}-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 1036 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.41 (1H, d, J = 9.0 Hz), 8.38 (1H, s), 8.32 (1H, s), 8.03 (1H, d, J = 8.3 Hz), 7.96 (1H, s), 7.87 - 7.92 (1H, m),  
 15 7.68 (1H, d, J = 8.3 Hz), 7.59 (1H, d, J = 7.8 Hz), 7.44 - 7.54 (2H, m), 7.24 (1H, dd, J = 2.9 Hz, J = 9.0 Hz), 4.20 - 4.26 (2H, m), 3.84 - 3.90 (2H, m), 3.68 - 3.74 (2H, m), 3.66 (2H, s), 3.55 - 3.60 (2H, m), 3.37 (3H, s), 2.53 - 2.75 (8H, m), 2.28 (3H, s), 1.03 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 704, 706, 707 (M-1)

20 Compound 1037 3-[[2-(2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-{2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-[2-(2-methoxy-ethoxy)-ethoxy]-phenyl}-benzamide

The title compound 1037 was produced in substantially the same manner as in Example S.

25 <sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 9.3 Hz), 8.29 (1H, s), 7.96 (1H, bs), 7.87 - 7.92 (1H, m), 7.78 (2H, d, J = 8.8 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.51 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.43 (1H, d, J = 2.9 Hz), 7.22 (1H, dd, J = 2.9 Hz, J = 9.0 Hz), 6.99 (2H, d, J = 9.0 Hz), 4.21 - 4.25 (2H, m), 3.85 - 3.88 (2H, m), 3.84 (3H, s), 3.69 - 3.72 (2H, m), 3.67  
 30 (2H, s), 3.56 - 3.59 (2H, m), 3.37 (3H, s), 2.55 - 2.80 (8H, m), 2.28 (3H, s), 1.04 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 632, 633, 634 (M-1)

#### Example T

Compound 1038 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(3-piperidin-1-yl-propoxy)-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

5-Hydroxy-2-nitro-benzoic acid (compound A') (2.0 g) was dissolved in methanol (30 ml). Thionyl chloride (3.0 ml) was added dropwise to the solution on an ice bath, and the mixture was then stirred at 75°C for 96 hr. After the completion of the reaction, the reaction solution was neutralized with a saturated aqueous sodium hydrogencarbonate solution and was then subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to give crude 5-hydroxy-2-nitro-benzoic acid methyl ester (2.2 g, crude yield 100%).

Subsequently, crude 5-hydroxy-2-nitro-benzoic acid methyl ester (2.2 g) produced by the above process was dissolved in acetone (15 ml). Potassium carbonate (3.0 g) and 1-bromo-3-chloro-propane (compound D) (3.1 ml) were added to the solution at room temperature, and the mixture was then stirred at that temperature for 2 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure. Distilled water was then added to the residue, the mixture was subjected to separatory extraction with chloroform, and the organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a hexane-acetone system to give 5-(3-chloro-propoxy)-2-nitro-benzoic acid methyl ester (2.9 g, yield 96%).

5-(3-Chloro-propoxy)-2-nitro-benzoic acid methyl ester (2.9 g) produced by the above process was dissolved in acetone (30 ml). Potassium carbonate (3.0 g) and piperidine (compound E) (2.0 ml) were added to the solution at room temperature, and the mixture was then stirred at 70°C for 24 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure. Distilled water was then added to the residue, the mixture was subjected to separatory extraction with chloroform, and the organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-nitro-5-(3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (2.4 g, yield 69%).

Subsequently, 2-nitro-5-(3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (2.4 g) produced by the above process was dissolved in methanol (24 ml), and platinum oxide (220 mg) was added to the solution at room temperature. The air in the reaction system was replaced by hydrogen, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, the atmosphere in the reaction system was replaced by nitrogen, and the reaction solution was filtered through Celite to remove platinum oxide. The filtrate was then concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-amino-5-(3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (compound A) as a useful intermediate (1.1 g, yield 50%).

2-Amino-5-(3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (compound A) (1.1 g) produced by the above process was dissolved in anhydrous methylene chloride (12 ml). Pyridine (600  $\mu$ l) and 3-(chloromethyl)benzoyl chloride (compound B) (600  $\mu$ l) were added dropwise to the solution at 0°C, and the mixture was stirred at room temperature for one hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was then subjected to separatory extraction with chloroform. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-chloromethyl-benzoylamino)-5-(3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (1.5 g, yield 93%).

Subsequently, 2-(3-chloromethyl-benzoylamino)-5-(3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (1.5 g) produced by the above process was dissolved in anhydrous methylene chloride (11 ml). Triethylamine (450  $\mu$ l) and N,N-diethyl-N'-methyl-ethylenediamine (compound B') (480  $\mu$ l) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 2-(3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}benzoylamino)-5-(3-piperidin-1-yl-propoxy)-benzoic acid methyl ester as a useful

intermediate (290 mg, yield 34%).

2-(3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl}benzoyl-amino)-5-(3-piperidin-1-yl-propoxy)-benzoic acid methyl ester (290 mg) produced by the above process was dissolved in ethanol (4 ml).

- 5 Hydrazine monohydrate (300  $\mu$ l) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 6 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 3-[(2-diethylamino-ethyl)-methyl-amino]-  
10 methyl}-N-[2-hydrazinocarbonyl-4-(3-piperidin-1-yl-propoxy)-phenyl]-benzamide (140 mg, yield 49%).

- Subsequently, 3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-N-[2-hydrazinocarbonyl-4-(3-piperidin-1-yl-propoxy)-phenyl]-benzamide  
15 (50 mg) produced by the above process was dissolved in anhydrous toluene (1.2 ml). 4-Chloro-3-(trifluoromethyl)benzaldehyde (compound C) (50  $\mu$ l) was added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 12 hr. After the completion of the reaction, the reaction system was concentrated. The  
20 residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 1038 (67 mg, yield 100%).

- $^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.40 (1H, d,  $J$  = 9.0 Hz), 8.37 (1H, s), 8.32 (1H, s), 8.03 (1H, d,  $J$  = 8.5 Hz), 7.95 (1H, s), 7.85 - 7.94 (1H, m),  
25 7.68 (1H, d,  $J$  = 8.3 Hz), 7.56 - 7.63 (1H, m), 7.51 (1H, dd,  $J$  = 7.7 Hz,  $J$  = 7.7 Hz), 7.44 (1H, d,  $J$  = 2.7 Hz), 7.20 (1H, dd,  $J$  = 2.7 Hz,  $J$  = 9.0 Hz), 4.08 - 4.15 (2H, m), 3.62 - 3.70 (2H, m), 2.45 - 2.72 (14H, m), 2.27 (3H, s), 1.98 - 2.07 (2H, m), 1.60 - 1.70 (4H, m), 1.45 - 1.54 (2H, m), 1.01 (6H, t,  $J$  = 7.2 Hz)

- 30 Mass spectrometric value (ESI-MS) 727, 728, 730 (M-1)

Compound 1039 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(3-piperidin-1-yl-propoxy)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

- The title compound 1039 was produced in substantially the same  
35 manner as in Example T.

$^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.41 (1H, d,  $J$  = 9.0 Hz), 8.37 (1H, s),

8.30 - 8.34 (1H, m), 8.04 (1H, d, J = 7.1 Hz), 7.83 - 7.94 (2H, m), 7.68 (1H, d, J = 8.3 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.50 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.42 (1H, d, J = 2.7 Hz), 7.22 (1H, dd, J = 2.7 Hz, J = 9.2 Hz), 4.14 (2H, t, J = 6.1 Hz), 3.86 (2H, s), 3.68 (2H, t, J = 6.8 Hz), 2.65 - 2.80 (6H, m), 2.57 (2H, t, J = 6.8 Hz), 2.05 - 2.15 (2H, m), 1.67 - 1.75 (4H, m), 1.50 - 1.60 (2H, m)

Mass spectrometric value (ESI-MS) 675, 677, 678 (M-1)

Compound 1040 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-(3-piperidin-1-yl-propoxy)-phenyl]-benzamide

The title compound 1040 was produced in substantially the same manner as in Example T.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.45 (1H, d, J = 9.0 Hz), 8.28 (1H, s), 7.92 (1H, bs), 7.85 (1H, d, J = 8.0 Hz), 7.78 (2H, d, J = 8.3 Hz), 7.58 (1H, d, J = 7.8 Hz), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.39 (1H, d, J = 2.4 Hz), 7.18 (1H, d, J = 9.3 Hz), 6.98 (2H, d, J = 8.3 Hz), 4.11 (2H, t, J = 5.7 Hz), 3.86 (2H, s), 3.83 (3H, s), 3.68 (2H, t, J = 6.8 Hz), 2.54 - 2.68 (8H, m), 2.00 - 2.09 (2H, m), 1.62 - 1.70 (4H, m), 1.47 - 1.57 (2H, m)

Mass spectrometric value (ESI-MS) 603, 604, 605 (M-1)

Compound 1041 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-(3-piperidin-1-yl-propoxy)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1041 was produced in substantially the same manner as in Example T.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.45 (1H, d, J = 9.3 Hz), 8.28 (1H, s), 7.93 (1H, bs), 7.86 (1H, d, J = 7.8 Hz), 7.65 (1H, s), 7.59 (1H, d, J = 7.8 Hz), 7.53 (1H, d, J = 8.1 Hz), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.41 (1H, d, J = 2.7 Hz), 7.16 - 7.23 (2H, m), 4.13 (2H, t, J = 6.1 Hz), 3.87 (2H, s), 3.68 (2H, t, J = 6.8 Hz), 2.55 - 2.73 (8H, m), 2.31 (3H, s), 2.30 (3H, s), 2.00 - 2.10 (2H, m), 1.65 - 1.75 (4H, m), 1.50 - 1.58 (2H, m)

Mass spectrometric value (ESI-MS) 601, 602, 603 (M-1)

Compound 1042 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methyl-benzylidene-hydrazinocarbonyl)-4-(2-piperidin-1-yl-ethoxy)-phenyl]-benzamide

The title compound 1042 was produced in substantially the same manner as in Example T.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.46 (1H, d, J = 9.0 Hz), 8.32 (1H, s), 7.93 (1H, bs), 7.86 (1H, d, J = 7.8 Hz), 7.73 (2H, d, J = 8.3 Hz), 7.59 (1H, d, J = 7.8 Hz), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.42 (1H, d, J = 2.9 Hz), 7.25 (2H, d, J = 7.8 Hz), 7.22 (1H, dd, J = 2.9 Hz, J = 9.3 Hz), 4.23 (2H, t, J = 5.6 Hz), 3.87 (2H, s), 3.68 (2H, t, J = 6.8 Hz), 2.83 (2H, t, J = 5.7 Hz), 2.55 - 2.65 (6H, m), 2.38 (3H, s), 1.62 - 1.70 (4H, m), 1.46 - 1.55 (2H, m)

Mass spectrometric value (ESI-MS) 573, 574, 575 (M-1)

Compound 1043 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-(2-piperidin-1-yl-ethoxy)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1043 was produced in substantially the same manner as in Example T.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.46 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.93 (1H, s), 7.86 (1H, d, J = 7.6 Hz), 7.66 (1H, s), 7.60 (1H, d, J = 7.6 Hz), 7.54 (1H, d, J = 8.0 Hz), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.43 (1H, d, J = 3.0 Hz), 7.17 - 7.25 (2H, m), 4.23 (2H, t, J = 5.6 Hz), 3.87 (2H, s), 3.68 (2H, t, J = 6.7 Hz), 2.83 (2H, t, J = 5.5 Hz), 2.55 - 2.65 (6H, m), 2.32 (3H, s), 2.30 (3H, s), 1.61 - 1.70 (4H, m), 1.45 - 1.55 (2H, m)

Mass spectrometric value (ESI-MS) 587, 588 (M-1)

Compound 1044 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(2-piperidin-1-yl-ethoxy)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1044 was produced in substantially the same manner as in Example T.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.44 (1H, d, J = 9.0 Hz), 8.38 (1H, s), 8.34 (1H, bs), 8.03 - 8.08 (1H, m), 7.93 (1H, bs), 7.86 (1H, d, J = 7.8 Hz), 7.69 (1H, d, J = 8.3 Hz), 7.60 (1H, d, J = 8.6 Hz), 7.50 (1H, dd, J = 7.8 Hz, J = 7.8 Hz), 7.44 (1H, d, J = 2.7 Hz), 7.24 (1H, dd, J = 2.9 Hz, J = 9.3 Hz), 4.23 (2H, t, J = 5.6 Hz), 3.86 (2H, s), 3.68 (2H, t, J = 7.0 Hz), 2.83 (2H, t, J = 5.6 Hz), 2.55 - 2.63 (6H, m), 1.62 - 1.70 (4H, m), 1.45 - 1.55 (2H, m)

Mass spectrometric value (ESI-MS) 661, 663, 664 (M-1)

Compound 1045 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-(2-piperidin-1-yl-ethoxy)-phenyl]-benzamide

The title compound 1045 was produced in substantially the same manner as in Example T.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.47 (1H, d, J = 9.3 Hz), 8.30 (1H, s), 7.93 (1H, bs), 7.86 (1H, d, J = 8.1 Hz), 7.80 (2H, d, J = 8.8 Hz), 7.60 (1H, d, J = 7.8 Hz), 7.50 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.42 (1H, d, J = 2.9 Hz), 7.22 (1H, dd, J = 2.9 Hz, J = 9.0 Hz), 6.99 (2H, d, J = 8.8 Hz), 4.23 (2H, t, J = 5.6 Hz), 3.87 (2H, s), 3.84 (3H, s), 3.68 (2H, t, J = 6.8 Hz), 2.82 (2H, t, J = 5.6 Hz), 2.55 - 2.63 (6H, m), 1.62 - 1.70 (4H, m), 1.45 - 1.55 (2H, m)

10 Mass spectrometric value (ESI-MS) 589, 590 (M-1)

Compound 1046 N-[4-Cyclohexylmethoxy-2-(3-fluoro-benzylidene-hydrazinocarbonyl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl-benzamide

15 The title compound 1046 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.41 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 7.97 (1H, s), 7.88 - 7.93 (1H, m), 7.68 - 7.78 (1H, m), 7.30 - 7.64 (5H, m), 7.08 - 7.22 (2H, m), 3.88 (2H, d, J = 6.1 Hz), 3.69 (2H, s), 2.80 - 2.93 (2H, m), 2.68 - 2.80 (4H, m), 2.55 - 2.65 (2H, m), 2.30 (3H, s), 1.68 - 1.95 (5H, m), 1.10 - 1.42 (6H, m), 1.08 (6H, t, J = 7.2 Hz)

20 Mass spectrometric value (ESI-MS) 614, 615, 616 (M-1) 638 (M+23)

Compound 1047 N-[4-Cyclohexylmethoxy-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl-benzamide

25 The title compound 1047 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.41 (1H, d, J = 9.0 Hz), 8.32 (1H, s), 7.96 (1H, bs), 7.88 - 7.92 (1H, m), 7.73 (2H, d, J = 8.0 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.52 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.39 (1H, d, J = 2.8 Hz), 7.26 (2H, d, J = 8.1 Hz), 7.19 (1H, dd, J = 2.9 Hz, J = 9.0 Hz), 3.88 (2H, d, J = 6.4 Hz), 3.68 (2H, s), 2.55 - 2.85 (8H, m), 2.38 (3H, s), 2.29 (3H, s), 1.70 - 1.95 (5H, m), 1.10 - 1.42 (6H, m), 1.05 (6H, t, J = 7.2 Hz)

30 Mass spectrometric value (ESI-MS) 610, 611, 612 (M-1)

Compound 1048 N-[4-Cyclohexylmethoxy-2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl-benzamide



The title compound 1048 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.42 (1H, d, J = 9.3 Hz), 8.28 (1H, s), 7.96 (1H, bs), 7.88 - 7.93 (1H, m), 7.64 (1H, s), 7.58 (1H, d, J = 7.6 Hz), 7.49 - 7.55 (2H, m), 7.39 (1H, d, J = 2.9 Hz), 7.16 - 7.23 (2H, m), 3.87 (2H, d, J = 6.4 Hz), 3.67 (2H, s), 2.55 - 2.80 (8H, m), 2.31 (3H, s), 2.30 (3H, s), 2.29 (3H, s), 1.70 - 1.95 (5H, m), 1.10 - 1.42 (6H, m), 1.04 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 624, 625, 626 (M-1) 670, 671 (M+23x2)

Compound 1049 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-cyclohexylmethoxy-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 1049 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.30 - 8.42 (2H, m), 8.03 (1H, d, J = 8.3 Hz), 7.96 (1H, s), 7.87 - 7.92 (1H, m), 7.69 (1H, d, J = 8.6 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.48 - 7.54 (2H, m), 7.41 (1H, d, J = 2.7 Hz), 7.20 (1H, dd, J = 2.7 Hz, J = 9.0 Hz), 3.88 (2H, d, J = 6.3 Hz), 3.67 (2H, s), 2.54 - 2.78 (8H, m), 2.28 (3H, s), 1.70 - 1.95 (5H, m), 1.08 - 1.42 (6H, m), 1.04 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 698, 700, 701 (M-1)

Compound 1050 N-[4-Cyclohexylmethoxy-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-[(2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

The title compound 1050 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.42 (1H, d, J = 9.0 Hz), 8.29 (1H, s), 7.96 (1H, bs), 7.87 - 7.93 (1H, m), 7.78 (2H, d, J = 8.8 Hz), 7.59 (1H, d, J = 7.3 Hz), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.38 (1H, d, J = 3.0 Hz), 7.18 (1H, dd, J = 3.0 Hz, J = 9.3 Hz), 6.99 (2H, d, J = 8.8 Hz), 3.87 (2H, d, J = 6.4 Hz), 3.84 (3H, s), 3.67 (2H, s), 2.54 - 2.80 (8H, m), 2.28 (3H, s), 1.70 - 1.95 (5H, m), 1.10 - 1.42 (6H, m), 1.03 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 626, 627, 628 (M-1) 650 (M+23)

Compound 1051 N-[2-(3-Fluoro-benzylidene-hydrazinocarbonyl)-4-(4-fluoro-butoxy)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1051 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.43 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 7.93 (1H, s), 7.86 (1H, d, J = 7.8 Hz), 7.70 (1H, d, J = 9.0 Hz), 7.59 (2H, d, J = 7.6 Hz), 7.40 - 7.52 (3H, m), 7.13 - 7.25 (2H, m), 4.55 - 4.60 (1H, m), 4.46 (1H, t, J = 5.7 Hz), 4.13 (2H, t, J = 5.9 Hz), 3.87 (2H, s), 3.68 (2H, t, J = 6.8 Hz), 2.58 (2H, t, J = 6.8 Hz), 1.80 - 1.95 (4H, m)

Mass spectrometric value (ESI-MS) 540, 541 (M-1) 564 (M+23)

Compound 1052 N-[4-(4-Fluoro-butoxy)-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1052 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.45 (1H, d, J = 9.0 Hz), 8.31 (1H, s), 7.93 (1H, bs), 7.86 (1H, d, J = 8.0 Hz), 7.73 (2H, d, J = 8.0 Hz), 7.59 (1H, d, J = 8.1 Hz), 7.49 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.42 (1H, d, J = 2.9 Hz), 7.26 (2H, d, J = 7.8 Hz), 7.21 (1H, dd, J = 2.9 Hz, J = 9.3 Hz), 4.55 - 4.60 (1H, m), 4.46 (1H, t, J = 5.7 Hz), 4.13 (2H, t, J = 6.0 Hz), 3.87 (2H, s), 3.68 (2H, t, J = 6.8 Hz), 2.57 (2H, t, J = 6.8 Hz), 2.38 (3H, s), 1.80 - 1.96 (4H, m)

Mass spectrometric value (ESI-MS) 536, 537 (M-1)

Compound 1053 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-(4-fluoro-butoxy)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1053 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.45 (1H, d, J = 9.3 Hz), 8.28 (1H, s), 7.93 (1H, s), 7.86 (1H, d, J = 8.0 Hz), 7.65 (1H, s), 7.59 (1H, d, J = 7.6 Hz), 7.53 (1H, d, J = 8.8 Hz), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.41 (1H, d, J = 2.7 Hz), 7.17 - 7.24 (2H, m), 4.55 - 4.60 (1H, m), 4.46 (1H, t, J = 5.7 Hz), 4.12 (2H, t, J = 6.0 Hz), 3.87 (2H, s), 3.68 (2H, t, J = 6.8 Hz), 2.57 (2H, t, J = 6.8 Hz), 2.31 (3H, s), 2.30 (3H, s), 1.83 - 1.95 (4H, m)

Mass spectrometric value (ESI-MS) 550, 551 (M-1)

Compound 1054 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(4-fluoro-butoxy)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1054 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.42 (1H, d, J = 9.2 Hz), 8.37 (1H, s), 8.32 (1H, s), 8.01 - 8.05 (1H, m), 7.92 (1H, s), 7.85 (1H, d, J = 7.8 Hz), 7.67 (1H, d, J = 8.3 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.42 (1H, d, J = 2.7 Hz), 7.22 (1H, dd, J = 2.7 Hz, J = 9.2 Hz), 4.55 - 4.60 (1H, m), 4.46 (1H, t, J = 5.7 Hz), 4.12 (2H, t, J = 5.8 Hz), 3.86 (2H, s), 3.68 (2H, t, J = 6.8 Hz), 2.57 (2H, t, J = 7.0 Hz), 1.80 - 1.95 (4H, m)

Mass spectrometric value (ESI-MS) 624, 626, 627 (M-1)

Compound 1055 N-[4-(4-Fluoro-butoxy)-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1055 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 6.95 - 8.60 (12H, m), 4.55 - 4.62 (1H, m), 4.46 (1H, t, J = 5.7 Hz), 4.12 (2H, t, J = 6.0 Hz), 3.83 - 3.88 (3H, m), 3.79 (2H, s), 3.68 (2H, t, J = 6.8 Hz), 2.57 (2H, t, J = 6.8 Hz), 1.80 - 1.95 (4H, m)

Mass spectrometric value (ESI-MS) 552, 553 (M-1)

Compound 1056 3-[[Bis-(2-diethylamino-ethyl)-amino]-methyl]-N-[3-(4-methyl-benzylidene-hydrazinocarbonyl)-4,5,6,7-tetrahydro-benzo[b]thiophen-2-yl]-benzamide

The title compound 1056 was produced in substantially the same manner as in Example B.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 0.98 (12H, t, J = 7.1 Hz), 1.92 (4H, m), 2.40 (3H, s), 2.45 - 2.65 (16H, m), 2.76 (2H, m), 2.89 (2H, m), 3.72 (2H, s), 7.24 (2H, m), 7.43 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.60 (1H, d, J = 7.3 Hz), 7.69 (2H, d, J = 8.0 Hz), 7.92 (1H, m), 8.00 (1H, s), 8.08 (1H, s)

Mass spectrometric value (ESI-MS) 644 (M-1)

Compound 1057 3-[(2-Diethylamino-ethyl)-methyl-amino]-methyl-N-[2-(3-fluoro-benzylidene-hydrazinocarbonyl)-4-(4-fluoro-butoxy)-phenyl]-benzamide

The title compound 1057 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.41 (1H, d, J = 9.0 Hz), 8.34 (1H, s), 7.88 - 7.98 (2H, m), 7.40 - 7.78 (6H, m), 7.14 - 7.26 (2H, m), 4.55 - 4.60 (1H, m), 4.46 (1H, t, J = 5.7 Hz), 4.13 (2H, t, J = 5.9 Hz), 3.68 (2H, s), 2.81 (2H, t, J = 6.8 Hz), 2.68 (4H, q, J = 7.1 Hz), 2.60 (2H, t, J = 7.0 Hz),

2.29 (3H, s), 1.83 - 1.97 (4H, m), 1.06 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 592, 593, 594 (M-1) 638  
(M+2x23)

Compound 1058 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-  
5 (4-fluoro-butoxy)-2-(4-methyl-benzylidene-hydrazinocarbonyl)-phenyl]-  
benzamide

The title compound 1058 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.42 (1H, d, J = 9.0 Hz), 8.32 (1H, s),  
10 7.95 (1H, s), 7.86 - 7.92 (1H, m), 7.71 (2H, d, J = 8.1 Hz), 7.58 (1H, d, J  
= 7.6 Hz), 7.51 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.41 (1H, d, J = 2.7 Hz),  
7.25 (2H, d, J = 7.8 Hz), 7.19 (1H, dd, J = 2.9 Hz, J = 9.0 Hz), 4.55 -  
4.60 (1H, m), 4.45 (1H, t, J = 5.6 Hz), 4.11 (2H, t, J = 5.7 Hz), 3.66 (2H,  
s), 2.72 - 2.79 (2H, m), 2.54 - 2.68 (6H, m), 2.37 (3H, s), 2.28 (3H, s),  
15 1.80 - 1.95 (4H, m), 1.04 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 588, 589, 590 (M-1) 634, 635  
(M+2x23)

Compound 1059 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl]-N-[2-  
20 (3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-(4-fluoro-butoxy)-  
phenyl]-benzamide

The title compound 1059 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.43 (1H, d, J = 9.0 Hz), 8.28 (1H, s),  
7.96 (1H, bs), 7.88 - 7.92 (1H, m), 7.63 (1H, s), 7.48 - 7.62 (3H, m), 7.40  
25 (1H, d, J = 2.7 Hz), 7.17 - 7.23 (2H, m), 4.55 - 4.60 (1H, m), 4.45 (1H, t,  
J = 5.7 Hz), 4.12 (2H, t, J = 5.9 Hz), 3.67 (2H, s), 2.72 - 2.80 (2H, m),  
2.55 - 2.68 (6H, m), 2.30 (3H, s), 2.29 (3H, s), 2.28 (3H, s), 1.80 - 1.95  
(4H, m), 1.03 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 602, 603 (M-1) 642, 648  
30 (M+2x23)

Compound 1060 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-  
hydrazinocarbonyl)-4-(4-fluoro-butoxy)-phenyl]-3-[[2-diethylamino-  
ethyl)-methyl-amino]-methyl]-benzamide

The title compound 1060 was produced in substantially the same manner as in Example S.  
35

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.36 - 8.42 (2H, m), 8.31 (1H, s), 7.98 -

8.03 (1H, m), 7.95 (1H, s), 7.86 - 7.91 (1H, m), 7.67 (1H, d, J = 8.3 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.51 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.42 (1H, d, J = 2.9 Hz), 7.20 (1H, dd, J = 2.9 Hz, J = 9.0 Hz), 4.55 - 4.60 (1H, m), 4.45 (1H, t, J = 5.7 Hz), 4.12 (2H, t, J = 5.9 Hz), 3.66 (2H, s), 2.54 - 2.78 (8H, m), 2.27 (3H, s), 1.80 - 1.95 (4H, m), 1.03 (6H, t, J = 7.2 Hz)  
 Mass spectrometric value (ESI-MS) 676, 677, 679 (M-1)

Compound 1061 3-[[2-(Diethylamino-ethyl)-methyl-amino]-methyl]-N-[4-(4-fluoro-butoxy)-2-(4-methoxy-benzylidene-hydrazinocarbonyl)-phenyl]-benzamide

10 The title compound 1061 was produced in substantially the same manner as in Example S.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 8.43 (1H, d, J = 9.3 Hz), 8.29 (1H, s), 7.95 (1H, bs), 7.87 - 7.92 (1H, m), 7.77 (2H, d, J = 8.8 Hz), 7.56 - 7.61 (1H, m), 7.50 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.40 (1H, d, J = 2.9 Hz), 15 7.19 (1H, dd, J = 2.7 Hz, J = 9.0 Hz), 6.97 (2H, d, J = 8.8 Hz), 4.55 - 4.59 (1H, m), 4.45 (1H, t, J = 5.7 Hz), 4.11 (2H, t, J = 6.0 Hz), 3.83 (3H, s), 3.66 (2H, s), 2.54 - 2.77 (8H, m), 2.28 (3H, s), 1.80 - 1.97 (4H, m), 1.03 (6H, t, J = 7.2 Hz)

Mass spectrometric value (ESI-MS) 604, 605, 606 (M-1) 606 (M+1)  
 20 628, 629 (M+23)

Compound 1062 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(4-hydroxy-piperidin-1-yl)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

25 The title compound 1062 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.67 (2H, m), 2.00 (2H, m), 2.57 (2H, m), 2.99 (2H, m), 3.68 (4H, m), 3.80 (1H, m), 3.86 (2H, s), 7.25 (1H, m), 7.41 (1H, d, J = 3.0 Hz), 7.49 (1H, m), 7.59 (1H, m), 7.69 (1H, d, J = 8.6 Hz), 7.85 (1H, m), 7.92 (1H, m), 8.05 (1H, m), 8.34 (2H, m), 8.38 (1H, s)

30 Mass spectrometric value (ESI-MS) 633 (M-1)

Compound 1063 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(4-hydroxymethyl-piperidin-1-yl)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

35 The title compound 1063 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.39 (2H, m), 1.63 (1H, m), 1.88 (2H, m),

2.57 (2H, t, J = 6.8 Hz), 2.76 (2H, m), 3.47 (2H, d, J = 6.3 Hz), 3.68 (2H, t, J = 6.8 Hz), 3.81 (2H, m), 3.86 (2H, s), 7.24 (1H, dd, J = 9.2 Hz, J = 2.8 Hz), 7.39 (1H, d, J = 2.7 Hz), 7.49 (1H, dd, J = 7.7 Hz, J = 7.7 Hz), 7.58 (1H, d, J = 7.6 Hz), 7.67 (1H, d, J = 8.3 Hz), 7.84 (1H, d, J = 7.6 Hz),  
 5 7.91 (1H, s), 8.03 (1H, m), 8.33 (2H, m), 8.37 (1H, s)

Mass spectrometric value (ESI-MS) 647 (M-1)

Compound 1064 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1064 was produced in substantially the same  
 10 manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.30 (3H, s), 2.31 (3H, s), 2.57 (2H, m), 3.24 (4H, m), 3.68 (2H, m), 3.87 (6H, m), 7.21 (2H, m), 7.38 (1H, s), 7.45 - 7.62 (3H, m), 7.66 (1H, m), 7.83 - 7.96 (2H, m), 8.28 (1H, s), 8.40 (1H, m)

15 Mass spectrometric value (ESI-MS) 545 (M-1)

Compound 1065 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1065 was produced in substantially the same  
 20 manner as in Example F.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 2.50 (2H, m), 3.20 (4H, m), 3.54 (2H, m), 3.78 (4H, m), 3.84 (2H, s), 7.24 (1H, d, J = 8.1 Hz), 7.32 (1H, s), 7.53 (2H, m), 7.75 - 7.84 (2H, m), 7.87 (1H, s), 8.05 (1H, d, J = 7.8 Hz), 8.20 (1H, s), 8.25 (1H, d, J = 9.0 Hz), 8.48 (1H, s), 11.25 (1H, bs), 12.24  
 25 (1H, s)

Mass spectrometric value (ESI-MS) 619 (M-1)

Compound 1066 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-benzamide

The title compound 1066 was produced in substantially the same  
 30 manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.57 (2H, m), 3.30 (4H, m), 3.68 (2H, m), 3.86 (9H, m), 7.00 (2H, m), 7.24 (1H, m), 7.38 (1H, m), 7.49 (1H, m), 7.60 (1H, m), 7.75 - 7.95 (4H, m), 8.29 (1H, s), 8.42 (1H, m)

Mass spectrometric value (ESI-MS) 547 (M-1)

35 Compound 1067 N-[4-[1,4']Bipiperazinyl-1'-yl-2-(4-chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-

## ethylsulfanylmethyl)-benzamide

The title compound 1067 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.60 (2H, m), 1.77 (6H, m), 2.11 (2H, m),  
 5 2.57 (2H, t, J = 6.8 Hz), 2.75 - 3.02 (7H, m), 3.68 (2H, t, J = 6.7 Hz), 3.86  
 (2H, s), 3.93 (2H, m), 7.26 (1H, m), 7.40 (1H, m), 7.49 (1H, m), 7.59 (1H,  
 m), 7.68 (1H, d, J = 8.1 Hz), 7.84 (1H, d, J = 8.0 Hz), 7.92 (1H, s), 8.04  
 (1H, d, J = 9.3 Hz), 8.30 - 8.40 (3H, m),

Mass spectrometric value (ESI-MS) 700 (M-1)

10 Compound 1068 N-[4-[1,4']Bipiperazinyl-1'-yl-2-(4-methoxy-  
 benzylidene-hydrazinocarbonyl)-phenyl]-3-(2-hydroxy-ethylsulfanyl-  
 methyl)-benzamide

The title compound 1068 was produced in substantially the same manner as in Example F.

15 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 1.39 (2H, m), 1.45 - 1.65 (6H, m), 1.84  
 (2H, m), 2.50 (7H, m), 2.70 (2H, m), 3.54 (2H, m), 3.83 (7H, m), 4.78 (1H,  
 t, J = 5.6 Hz), 7.02 (2H, d, J = 8.8 Hz), 7.19 (1H, m), 7.31 (1H, m), 7.53  
 (2H, m), 7.70 (2H, d, J = 7.8 Hz), 7.76 (1H, d, J = 7.3 Hz), 7.86 (1H, s),  
 8.31 (1H, d, J = 9.0 Hz), 8.39 (1H, s), 11.67 (1H, s), 11.88 (1H, s)

20 Mass spectrometric value (ESI-MS) 628 (M-1)

Compound 1069 N-[2-(3,4-Dimethyl-benzylidene-hydrazinocarbonyl)-4-  
 (4-methyl-piperidin-1-yl)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-  
 benzamide

The title compound 1069 was produced in substantially the same manner as in Example F.

25 <sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 0.97 (3H, d, J = 6.6 Hz), 1.27 (2H, m),  
 1.53 (1H, m), 1.74 (2H, m), 2.27 (3H, s), 2.28 (3H, s), 2.50 (2H, m), 2.70  
 (2H, m), 3.54 (2H, m), 3.75 (2H, m), 3.85 (2H, s), 4.77 (1H, t, J = 5.7 Hz),  
 7.21 (2H, m), 7.31 (1H, m), 7.45 (1H, d, J = 7.6 Hz), 7.52 (3H, m), 7.76  
 30 (1H, d, J = 7.3 Hz), 7.87 (1H, s), 8.29 (1H, m), 8.37 (1H, s), 11.41 (1H, s),  
 11.90 (1H, s)

Mass spectrometric value (ESI-MS) 557 (M-1)

Compound 1070 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-  
 hydrazinocarbonyl)-4-(4-methyl-piperidin-1-yl)-phenyl]-3-(2-hydroxy-  
 35 ethylsulfanylmethyl)-benzamide

The title compound 1070 was produced in substantially the same

manner as in Example F.

<sup>1</sup>H-NMR (DMSO-d<sub>6</sub>, 400 MHz): δ 0.96 (3H, d, J = 6.3 Hz), 1.27 (2H, m), 1.53 (1H, m), 1.74 (2H, m), 2.50 (2H, m), 2.70 (2H, m), 3.54 (2H, m), 3.74 (2H, m), 3.84 (2H, s), 4.83 (1H, m), 7.19 (1H, d, J = 8.6 Hz), 7.33 (1H, s), 7.52 (2H, m), 7.79 (2H, m), 7.86 (1H, s), 8.04 (1H, d, J = 7.6 Hz), 8.23 (2H, m), 8.49 (1H, s), 12.24 (1H, s)

Mass spectrometric value (ESI-MS) 631 (M-1)

Compound 1071 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-(4-methyl-piperidin-1-yl)-phenyl]-benzamide

The title compound 1071 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 1.01 (3H, d, J = 6.1 Hz), 1.37 (2H, m), 1.55 (1H, m), 1.80 (2H, m), 2.57 (2H, t, J = 6.7 Hz), 2.76 (2H, m), 3.68 (2H, m), 3.76 (2H, m), 3.84 (3H, s), 3.86 (2H, s), 6.99 (2H, d, J = 8.8 Hz), 7.22 (1H, m), 7.38 (1H, m), 7.49 (1H, m), 7.58 (1H, m), 7.79 (2H, d, J = 8.5 Hz), 7.85 (1H, d, J = 7.6 Hz), 7.92 (1H, s), 8.30 (1H, s), 8.36 (1H, d, J = 9.3 Hz)

Mass spectrometric value (ESI-MS) 559 (M-1)

Compound 1072 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-(4-methyl-piperazin-1-yl)-phenyl]-3-(2-hydroxy-ethylsulfanylmethyl)-benzamide

The title compound 1072 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.44 (3H, m), 2.56 (2H, m), 2.74 (4H, m), 3.30 (4H, m), 3.66 (2H, m), 3.85 (2H, m), 7.26 (1H, m), 7.40 (1H, s), 7.49 (1H, m), 7.58 (1H, m), 7.68 (1H, m), 7.83 (1H, m), 7.91 (1H, s), 8.02 (1H, m), 8.35 (3H, m)

Mass spectrometric value (ESI-MS) 632 (M-1)

Compound 1073 3-(2-Hydroxy-ethylsulfanylmethyl)-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-(4-methyl-piperazin-1-yl)-phenyl]-benzamide

The title compound 1073 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CD<sub>3</sub>OD, 400 MHz): δ 2.34 (3H, s), 2.57 (2H, t, J = 6.8 Hz), 2.66 (4H, m), 3.31 (4H, m), 3.68 (2H, t, J = 6.8 Hz), 3.84 (3H, s), 3.86 (2H, s),



6.99 (2H, d, J = 8.8 Hz), 7.24 (1H, dd, J = 9.1 Hz, J = 2.7 Hz), 7.38 (1H, d, J = 2.9 Hz), 7.49 (1H, d, J = 7.7 Hz), 7.59 (1H, d, J = 7.6 Hz), 7.79 (2H, d, J = 8.8 Hz), 7.85 (1H, d, J = 7.8 Hz), 7.92 (1H, s), 8.29 (1H, s), 8.40 (1H, d, J = 9.0 Hz)

5 Mass spectrometric value (ESI-MS) 560 (M-1)

Compound 1074 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[2-(3,4-dimethyl-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-benzamide

10 The title compound 1074 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.04 (6H, t, J = 7.1 Hz), 2.28 (9H, m), 2.59 (6H, m), 2.68 (2H, m), 2.85 (4H, m), 3.41 (4H, m), 3.64 (2H, s), 6.83 (1H, d, J = 9.0 Hz), 6.97 (1H, s), 7.18 (1H, d, J = 7.6 Hz), 7.47 (1H, dd, J = 7.6 Hz, J = 7.6 Hz), 7.56 (2H, m), 7.69 (1H, s), 7.89 (1H, d, J = 7.6 Hz),  
15 8.00 (1H, s), 8.09 (1H, d, J = 9.0 Hz), 8.55 (1H, s), 11.22 (1H, s)

Mass spectrometric value (ESI-MS) 597 (M-1)

Compound 1075 N-[2-(4-Chloro-3-trifluoromethyl-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-3-[[2-diethylamino-ethyl)-methyl-amino]-methyl}-benzamide

20 The title compound 1075 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.03 (6H, t, J = 7.1 Hz), 2.28 (3H, s), 2.57 (6H, m), 2.66 (2H, m), 2.80 (4H, m), 3.34 (4H, m), 3.65 (2H, s), 6.80 (1H, d, J = 8.6 Hz), 6.89 (1H, s), 7.50 (1H, m), 7.60 (2H, m), 7.89 (1H, d, J =  
25 7.6 Hz), 7.97 (1H, m), 8.03 (1H, s), 8.08 (1H, d, J = 8.3 Hz), 8.13 (1H, s), 8.66 (1H, s), 11.08 (1H, s)

Mass spectrometric value (ESI-MS) 671 (M-1)

Compound 1076 3-[[2-Diethylamino-ethyl)-methyl-amino]-methyl}-N-[2-(4-methoxy-benzylidene-hydrazinocarbonyl)-4-morpholin-4-yl-phenyl]-benzamide

30 The title compound 1076 was produced in substantially the same manner as in Example F.

<sup>1</sup>H-NMR (CDCl<sub>3</sub>, 400 MHz): δ 1.06 (6H, t, J = 7.1 Hz), 2.25 (3H, s), 2.62 (6H, m), 2.72 (2H, m), 2.91 (4H, m), 3.46 (4H, m), 3.62 (2H, s), 3.82 (3H, s), 6.84 - 6.92 (3H, m), 7.07 (1H, s), 7.44 (1H, dd, J = 7.7 Hz, J = 7.7 Hz),  
35 7.53 (1H, m), 7.75 (2H, d, J = 8.5 Hz), 7.88 (1H, d, J = 7.8 Hz), 7.97 (1H,

s), 8.17 (1H, d, J = 9.0 Hz), 8.57 (1H, s), 11.34 (1H, s)

Mass spectrometric value (ESI-MS) 599 (M-1)

#### Example U

Compound     1077     N-Benzoyloxy-5-chloro-2-(3-diethylaminomethyl-  
5 benzoylamino)-benzamide

2-Amino-5-chloro-benzoic acid methyl ester (1.5 g) was dissolved in anhydrous methylene chloride (25 ml). Pyridine (1.4 ml) and 3-(chloromethyl)benzoyl chloride (1.4 ml) were added dropwise to the solution at 0°C, and the mixture was then stirred at room temperature for 30 min. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with chloroform. The organic layer was then washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure to precipitate crystals. The precipitated crystals were collected by filtration through Kiriyaama Rohto and were washed with ether to give 5-chloro-2-(3-chloromethyl-benzoylamino)-benzoic acid methyl ester as a useful intermediate (2.4 g, yield 90%).

5-Chloro-2-(3-chloromethyl-benzoylamino)-benzoic acid methyl ester (2.4 g) produced by the above process was dissolved in anhydrous methylene chloride (30 ml). Triethylamine (1.5 ml) and diethylamine (2.0 ml) were added dropwise to the solution at room temperature, and the mixture was then stirred at that temperature for 48 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to give 5-chloro-2-(3-diethylaminomethyl-benzoylamino)-benzoic acid methyl ester as a useful intermediate (1.9 g, yield 71%).

Subsequently, 5-chloro-2-(3-diethylaminomethyl-benzoylamino)-benzoic acid methyl ester (1.9 g) produced by the above process was dissolved in tetrahydrofuran/distilled water = 4/1 (20 ml). Lithium hydroxide monohydrate (420 mg) was added to the solution at room temperature, and the mixture was then stirred at that temperature for 2.5 hr. After the completion of the reaction, the reaction system was concentrated under the reduced pressure, and the residue was purified by column chromatography eluted with a chloroform-methanol system to

give 5-chloro-2-(3-diethylaminomethyl-benzoylamino)-benzoic acid (1.0 g, yield 56%).

5-Chloro-2-(3-diethylaminomethyl-benzoylamino)-benzoic acid (50 mg) produced by the above process was dissolved in N,N-dimethylformamide (1.0 ml). 1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (38 mg), 1-hydroxy-benzotriazole monohydrate (28 mg), triethylamine (50  $\mu$ l) and o-benzyl-hydroxylamine hydrochloride (40 mg) were added to the solution at room temperature, and the mixture was then stirred at that temperature for 24 hr. After the completion of the reaction, distilled water was added thereto at room temperature, and the mixture was subjected to separatory extraction with ethyl acetate. The organic layer was washed with saturated brine, was dried over sodium sulfate, and was then concentrated under the reduced pressure. The residue was purified by column chromatography eluted with a chloroform-methanol system to give the title compound 1077 (29 mg, yield 45%).

$^1\text{H-NMR}$  ( $\text{CD}_3\text{OD}$ , 400 MHz):  $\delta$  8.55 (1H, d,  $J = 9.0$  Hz), 7.98 (1H, s), 7.87 - 7.91 (1H, m), 7.61 - 7.65 (2H, m), 7.40 - 7.56 (4H, m), 7.23 - 7.38 (3H, m), 4.99 (2H, s), 3.89 (2H, s), 2.73 (4H, q,  $J = 7.2$  Hz), 1.15 (6H, t,  $J = 7.2$  Hz)

Mass spectrometric value (ESI-MS) 463, 465, 466 (M-1) 465, 467 (M+1) 489 (M+23)

Starting compounds for compounds 1 to 1076 are shown in Table 1. In the table, compounds A, B, C, and B' correspond to compounds described in Examples 1 to 11 and Examples A to T and schemes 1 and 2.

Table 1

	A	B	C	B'
Compound 1	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	Trans-cinnamaldehyde	
Compound 2	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	2-Fluoro-benzaldehyde	
Compound 3	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	o-Tolualdehyde	
Compound 4	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	o-Methoxybenz-aldehyde	
Compound 5	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	m-Methoxy-benzaldehyde	
Compound 6	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3,5-Ditert-butyl-4-hydroxybenz-aldehyde	
Compound 7	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	$\alpha$ -Methyl-cinnamaldehyde	
Compound 8	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3,5-Ditrifluoro methylbenz-aldehyde	
Compound 9	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3-Cyano-benzaldehyde	
Compound 10	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	2-Bromo-benzaldehyde	
Compound 11	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	Vanillin	
Compound 12	Methyl 2-aminobenzoate	3,4-Dimethoxy-benzoyl chloride	3,4,5-Trimethoxy-benzaldehyde	
Compound 13	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	Trans-cinnamaldehyde	
Compound 14	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	2-Bromo-benzaldehyde	
Compound 15	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3-Fluoro-benzaldehyde	
Compound 16	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	4-Fluoro-benzaldehyde	
Compound 17	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	Benzaldehyde	
Compound 18	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3-Hydroxy-benzaldehyde	
Compound 19	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	4-Hydroxy-benzaldehyde	
Compound 20	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	m-Tolualdehyde	
Compound 21	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	Furfural	
Compound 22	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	5-Methylfurfural	
Compound 23	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	2-Thiophene-carboxyaldehyde	
Compound 24	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3-Thiophene-carboxyaldehyde	
Compound 25	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	2,4-Dihydroxy-benzaldehyde	
Compound 26	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3,4-Dihydroxy-benzaldehyde	
Compound 27	Methyl 2-amino-benzoate	2-Fluorobenzoyl chloride	Benzaldehyde	
Compound 28	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	2-Fluoro-benzaldehyde	

	A	B	C	B'
Compound 29	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxybenzoyl chloride	3-Fluorobenzaldehyde	
Compound 30	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxybenzoyl chloride	o-Tolualdehyde	
Compound 31	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxybenzoyl chloride	m-Tolualdehyde	
Compound 32	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	3-Chloro-4-fluorobenzaldehyde	
Compound 33	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	4-Trifluoromethoxybenzaldehyde	
Compound 34	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	3-Bromo-4-methoxybenzaldehyde	
Compound 35	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	3-Chlorobenzaldehyde	
Compound 36	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	3,5-Dimethyl-4-hydroxybenzaldehyde	
Compound 37	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	3-Ethoxy-4-hydroxybenzaldehyde	
Compound 38	Methyl 2-amino-benzoate	2-Fluorobenzoyl chloride	4-Fluorobenzaldehyde	
Compound 39	Methyl 2-amino-benzoate	2-Fluorobenzoyl chloride	3-Hydroxybenzaldehyde	
Compound 40	Methyl 2-amino-benzoate	2-Fluorobenzoyl chloride	p-Tolualdehyde	
Compound 41	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 42	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	4-Hydroxy-3-methylbenzaldehyde	
Compound 43	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	2,5-Dimethylbenzaldehyde	
Compound 44	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	2-Fluoro-5-trifluoromethylbenzaldehyde	
Compound 45	Methyl 2-amino-benzoate	2-Fluorobenzoyl chloride	4-Hydroxy-3-methylbenzaldehyde	
Compound 46	Methyl 2-amino-benzoate	2-Fluorobenzoyl chloride	2,5-Dimethylbenzaldehyde	
Compound 47	Methyl 2-amino-benzoate	4-Methoxybenzoyl chloride	3-Fluorobenzaldehyde	
Compound 48	Methyl 2-amino-benzoate	4-Methoxybenzoyl chloride	4-Fluorobenzaldehyde	
Compound 49	Methyl 2-amino-benzoate	4-Methoxybenzoyl chloride	m-Tolualdehyde	
Compound 50	Methyl 2-amino-benzoate	4-Methoxybenzoyl chloride	3-Hydroxybenzaldehyde	
Compound 51	Methyl 2-amino-benzoate	4-Methoxybenzoyl chloride	p-Tolualdehyde	
Compound 52	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	4-Allyloxybenzaldehyde	
Compound 53	Methyl 2-amino-benzoate	3,4-Dimethoxybenzoyl chloride	3,5-Dimethoxybenzaldehyde	

	A	B	C	B'
Compound 54	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3-[3-(Trifluoro-methyl)phenoxy]-benzaldehyde	
Compound 55	Methyl 2-amino-benzoate	3,5-Dimethoxy-benzoyl chloride	3-Fluorobenz-aldehyde	
Compound 56	Methyl 2-amino-benzoate	3,5-Dimethoxy-benzoyl chloride	4-Fluorobenz-aldehyde	
Compound 57	Methyl 2-amino-benzoate	3,5-Dimethoxy-benzoyl chloride	p-Tolualdehyde	
Compound 58	Methyl 2-amino-benzoate	3,5-Dimethoxy-benzoyl chloride	3-Hydroxybenz-aldehyde	
Compound 59	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Chlorobenz-aldehyde	
Compound 60	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Chlorobenz-aldehyde	
Compound 61	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Fluorobenz-aldehyde	
Compound 62	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	p-Tolualdehyde	
Compound 63	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Hydroxybenz-aldehyde	
Compound 64	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Hydroxy-benzaldehyde	
Compound 65	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Fluorobenz-aldehyde	
Compound 66	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Fluorobenz-aldehyde	
Compound 67	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	m-Tolualdehyde	
Compound 68	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	p-Tolualdehyde	
Compound 69	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Hydroxybenz-aldehyde	
Compound 70	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Hydroxybenz-aldehyde	
Compound 71	Methyl 2-amino-4-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Fluorobenz-aldehyde	
Compound 72	Methyl 2-amino-4-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Fluorobenz-aldehyde	
Compound 73	Methyl 2-amino-4-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	m-Tolualdehyde	
Compound 74	Methyl 2-amino-4-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	p-Tolualdehyde	
Compound 75	Methyl 2-amino-4-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Hydroxybenz-aldehyde	
Compound 76	Methyl 2-amino-benzoate	4-Fluorobenzoyl chloride	3-Fluorobenz-aldehyde	
Compound 77	Methyl 2-amino-benzoate	4-Fluorobenzoyl chloride	4-Fluorobenz-aldehyde	
Compound 78	Methyl 2-amino-benzoate	4-Fluorobenzoyl chloride	m-Tolualdehyde	
Compound 79	Methyl 2-aminobenzoate	4-Fluorobenzoyl chloride	p-Tolualdehyde	
Compound 80	Methyl 2-amino-benzoate	4-Fluorobenzoyl chloride	3-Hydroxybenz-aldehyde	
Compound 81	Methyl 2-amino-benzoate	3-Fluorobenzoyl chloride	3-Fluorobenz-aldehyde	
Compound 82	Methyl 2-amino-benzoate	3-Fluorobenzoyl chloride	4-Fluorobenz-aldehyde	

	A	B	C	B'
Compound 83	Methyl 2-amino-benzoate	3-Fluorobenzoyl chloride	m-Tolualdehyde	
Compound 84	Methyl 2-amino-benzoate	3-Fluorobenzoyl chloride	p-Tolualdehyde	
Compound 85	Methyl 2-amino-benzoate	3-Fluorobenzoyl chloride	3-Hydroxy-benzaldehyde	
Compound 86	Methyl 2-amino-benzoate	3-Fluorobenzoyl chloride	4-Hydroxy-benzaldehyde	
Compound 87	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 88	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 89	Methyl 2-amino-benzoate	3,5-Dimethoxy-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 90	Methyl 2-amino-benzoate	4-Methoxybenzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 91	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 92	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 93	Methyl 2-aminobenzoate	3,5-Dimethoxy-benzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 94	Methyl 2-aminobenzoate	4-Methoxybenzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 95	Methyl 2-aminobenzoate	3-Fluorobenzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 96	Methyl 2-aminobenzoate	4-Fluorobenzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 97	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Bromo-4-methoxybenzaldehyde	
Compound 98	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Bromo-4-methoxybenzaldehyde	
Compound 99	Methyl 2-amino-benzoate	3,5-Dimethoxy-benzoyl chloride	3-Bromo-4-methoxybenzaldehyde	
Compound 100	Methyl 2-amino-benzoate	4-Methoxybenzoyl chloride	3-Bromo-4-methoxybenzaldehyde	
Compound 101	Methyl 2-amino-benzoate	3-Fluorobenzoyl chloride	3-Bromo-4-methoxybenzaldehyde	
Compound 102	Methyl 2-amino-benzoate	4-Fluorobenzoyl chloride	3-Bromo-4-methoxybenzaldehyde	
Compound 103	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	3-Nitrobenzaldehyde	
Compound 104	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	4-Dimethylaminobenzaldehyde	
Compound 105	Methyl 2-amino-5-bromobenzoate	4-Fluorobenzoyl chloride	3-Fluorobenzaldehyde	
Compound 106	Methyl 2-amino-5-bromobenzoate	4-Fluorobenzoyl chloride	4-Fluorobenzaldehyde	

	A	B	C	B'
Compound 107	Methyl 2-amino-5-bromobenzoate	4-Fluorobenzoyl chloride	3-Chlorobenzaldehyde	
Compound 108	Methyl 2-amino-5-bromobenzoate	4-Fluorobenzoyl chloride	4-Chlorobenzaldehyde	
Compound 109	Methyl 2-amino-5-bromobenzoate	4-Fluorobenzoyl chloride	3-Hydroxybenzaldehyde	
Compound 110	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxybenzoyl chloride	3-Pyridinecarboxyaldehyde	
Compound 111	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxybenzoyl chloride	3-Pyridinecarboxyaldehyde	
Compound 112	Methyl 2-amino-benzoate	4-Methoxybenzoyl chloride	3-Pyridinecarboxyaldehyde	
Compound 113	Methyl 2-amino-benzoate	4-Fluorobenzoyl chloride	3-Pyridinecarboxyaldehyde	
Compound 114	Methyl 2-amino-5-bromobenzoate	3,5-Dimethoxybenzoyl chloride	3-Fluorobenzaldehyde	
Compound 115	Methyl 2-amino-5-bromobenzoate	3,5-Dimethoxybenzoyl chloride	4-Fluorobenzaldehyde	
Compound 116	Methyl 2-amino-5-bromobenzoate	3,5-Dimethoxybenzoyl chloride	3-Chlorobenzaldehyde	
Compound 117	Methyl 2-amino-5-bromobenzoate	3,5-Dimethoxybenzoyl chloride	4-Chlorobenzaldehyde	
Compound 118	Methyl 2-amino-5-bromobenzoate	3,5-Dimethoxybenzoyl chloride	m-Tolualdehyde	
Compound 119	Methyl 2-amino-5-bromobenzoate	3,5-Dimethoxybenzoyl chloride	p-Tolualdehyde	
Compound 120	Methyl 2-amino-benzoate	3-Trifluoromethoxybenzoyl chloride	3-Fluorobenzaldehyde	
Compound 121	Methyl 2-amino-benzoate	3-Trifluoromethoxybenzoyl chloride	4-Fluorobenzaldehyde	
Compound 122	Methyl 2-amino-benzoate	3-Trifluoromethoxybenzoyl chloride	3-Chlorobenzaldehyde	
Compound 123	Methyl 2-amino-benzoate	3-Trifluoromethoxybenzoyl chloride	4-Chlorobenzaldehyde	
Compound 124	Methyl 2-amino-benzoate	3-Trifluoromethoxybenzoyl chloride	p-Tolualdehyde	
Compound 125	Methyl 2-amino-5-hydroxy-benzoate	3,4-Dimethoxybenzoyl chloride	4-Fluorobenzaldehyde	
Compound 126	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxybenzoyl chloride	3,4-Dimethoxybenzaldehyde	
Compound 127	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxybenzoyl chloride	3,4-Dimethoxybenzaldehyde	
Compound 128	Methyl 2-amino-5-bromobenzoate	3,5-Dimethoxybenzoyl chloride	3,4-Dimethoxybenzaldehyde	
Compound 129	Methyl 2-amino-benzoate	Nicotinoyl chloride hydrochloride	3-Fluorobenzaldehyde	
Compound 130	Methyl 2-amino-benzoate	Nicotinoyl chloride hydrochloride	4-Fluorobenzaldehyde	
Compound 131	Methyl 2-amino-benzoate	Nicotinoyl chloride hydrochloride	m-Tolualdehyde	
Compound 132	Methyl 2-amino-benzoate	Nicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 133	Methyl 2-amino-benzoate	Nicotinoyl chloride hydrochloride	3,4-Dimethylbenzaldehyde	



	A	B	C	B'
Compound 134	Methyl 2-amino-benzoate	Isonicotinoyl chloride hydrochloride	3-Fluoro-benzaldehyde	
Compound 135	Methyl 2-amino-benzoate	Isonicotinoyl chloride hydrochloride	4-Fluoro-benzaldehyde	
Compound 136	Methyl 2-amino-benzoate	Isonicotinoyl chloride hydrochloride	m-Tolualdehyde	
Compound 137	Methyl 2-amino-benzoate	Isonicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 138	Methyl 2-amino-benzoate	Isonicotinoyl chloride hydrochloride	3,4-Dimethyl-benzaldehyde	
Compound 139	Methyl 2-amino-5-hydroxybenzoate	3,4-Dimethoxy-benzoyl chloride	4-Fluoro-benzaldehyde	
Compound 140	Methyl 2-amino-5-hydroxybenzoate	3,4-Dimethoxy-benzoyl chloride	4-Fluoro-benzaldehyde	
Compound 141	Methyl 2-amino-5-methoxybenzoate	3,4-Dimethoxy-benzoyl chloride	3-Fluoro-benzaldehyde	
Compound 142	Methyl 2-amino-5-methoxybenzoate	3,4-Dimethoxy-benzoyl chloride	4-Fluoro-benzaldehyde	
Compound 143	Methyl 2-amino-5-methoxybenzoate	3,4-Dimethoxy-benzoyl chloride	m-Tolualdehyde	
Compound 144	Methyl 2-amino-5-methoxybenzoate	3,4-Dimethoxy-benzoyl chloride	p-Tolualdehyde	
Compound 145	Methyl 2-amino-5-methoxybenzoate	3,4-Dimethoxy-benzoyl chloride	3,4-Dimethyl-benzaldehyde	
Compound 146	Methyl 2-amino-5-methylbenzoate	3,4-Dimethoxy-benzoyl chloride	3-Fluoro-benzaldehyde	
Compound 147	Methyl 2-amino-5-methylbenzoate	3,4-Dimethoxy-benzoyl chloride	4-Fluoro-benzaldehyde	
Compound 148	Methyl 2-amino-5-methylbenzoate	3,4-Dimethoxy-benzoyl chloride	m-Tolualdehyde	
Compound 149	Methyl 2-amino-5-methylbenzoate	3,4-Dimethoxy-benzoyl chloride	p-Tolualdehyde	
Compound 150	Methyl 2-amino-5-methylbenzoate	3,4-Dimethoxy-benzoyl chloride	3,4-Dimethyl-benzaldehyde	
Compound 151	Methyl 2-amino-5-bromobenzoate	2-Furoyl chloride	3-Fluoro-benzaldehyde	
Compound 152	Methyl 2-amino-5-bromobenzoate	2-Furoyl chloride	4-Fluoro-benzaldehyde	
Compound 153	Methyl 2-amino-5-bromobenzoate	2-Furoyl chloride	m-Tolualdehyde	
Compound 154	Methyl 2-amino-5-bromobenzoate	2-Furoyl chloride	p-Tolualdehyde	
Compound 155	Methyl 2-amino-5-bromobenzoate	2-Furoyl chloride	3,4-Dimethyl-benzaldehyde	
Compound 156	Methyl 2-amino-5-bromobenzoate	2-Furoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	
Compound 157	Methyl 2-amino-5-bromobenzoate	Thiophene-2-carbonyl chloride	3-Fluorobenzaldehyde	
Compound 158	Methyl 2-amino-5-bromobenzoate	Thiophene-2-carbonyl chloride	4-Fluorobenzaldehyde	
Compound 159	Methyl 2-amino-5-bromobenzoate	Thiophene-2-carbonyl chloride	m-Tolualdehyde	

	A	B	C	B'
Compound 160	Methyl 2-amino-5-bromobenzoate	Thiophene-2-carbonyl chloride	p-Tolualdehyde	
Compound 161	Methyl 2-amino-5-bromobenzoate	Thiophene-2-carbonyl chloride	3,4-Dimethylbenzaldehyde	
Compound 162	Methyl 2-amino-5-bromobenzoate	Thiophene-2-carbonyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 163	Methyl 2-amino-benzoate	Isonicotinoyl chloride hydrochloride	3,4-Dimethylbenzaldehyde	
Compound 164	Methyl 2-aminobenzoate	Nicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 165	Methyl 2-aminobenzoate	Nicotinoyl chloride hydrochloride	3,4-Dimethylbenzaldehyde	
Compound 166	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	3-Fluorobenzaldehyde	
Compound 167	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	4-Fluorobenzaldehyde	
Compound 168	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	m-Tolualdehyde	
Compound 169	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 170	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	3,4-Dimethylbenzaldehyde	
Compound 171	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 172	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	3-Fluorobenzaldehyde	
Compound 173	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	4-Fluorobenzaldehyde	
Compound 174	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	m-Tolualdehyde	
Compound 175	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 176	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	3,4-Dimethylbenzaldehyde	
Compound 177	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 178	Methyl 2-amino-5-bromobenzoate	4-Ethyl benzoyl chloride	3-Fluorobenzaldehyde	
Compound 179	Methyl 2-amino-5-bromobenzoate	4-Ethyl benzoyl chloride	4-Fluorobenzaldehyde	
Compound 180	Methyl 2-amino-5-bromobenzoate	4-Ethyl benzoyl chloride	m-Tolualdehyde	
Compound 181	Methyl 2-amino-5-bromobenzoate	4-Ethyl benzoyl chloride	p-Tolualdehyde	
Compound 182	Methyl 2-amino-5-bromobenzoate	4-Ethyl benzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 183	Methyl 2-amino-5-bromobenzoate	4-Ethyl benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	

	A	B	C	B'
Compound 184	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	3-Fluorobenzaldehyde	
Compound 185	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	4-Fluorobenzaldehyde	
Compound 186	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	m-Tolualdehyde	
Compound 187	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 188	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	3,4-Dimethylbenzaldehyde	
Compound 189	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 190	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	4-Fluorobenzaldehyde	
Compound 191	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	m-Tolualdehyde	
Compound 192	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 193	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	3,4-Dimethylbenzaldehyde	
Compound 194	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 195	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)benzoyl chloride	3-Fluorobenzaldehyde	4-Mercaptopyridine
Compound 196	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)benzoyl chloride	4-Fluorobenzaldehyde	4-Mercaptopyridine
Compound 197	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)benzoyl chloride	m-Tolualdehyde	4-Mercaptopyridine
Compound 198	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)benzoyl chloride	p-Tolualdehyde	4-Mercaptopyridine
Compound 199	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)benzoyl chloride	3,4-Dimethylbenzaldehyde	4-Mercaptopyridine
Compound 200	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	4-Mercaptopyridine
Compound 201	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxybenzoyl chloride	1-Methylpyrrole-2-carboxaldehyde	
Compound 202	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxybenzoyl chloride	4,5-Dimethyl-2-furancarboxaldehyde	
Compound 203	Methyl 2-amino-benzoate	Isonicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 204	Methyl 2-amino-5-iodobenzoate	3,4-Dimethoxybenzoyl chloride	3-Fluorobenzaldehyde	
Compound 205	Methyl 2-amino-5-iodobenzoate	3,4-Dimethoxybenzoyl chloride	4-Fluorobenzaldehyde	
Compound 206	Methyl 2-amino-5-iodobenzoate	3,4-Dimethoxybenzoyl chloride	m-Tolualdehyde	
Compound 207	Methyl 2-amino-5-iodobenzoate	3,4-Dimethoxybenzoyl chloride	p-Tolualdehyde	
Compound 208	Methyl 2-amino-5-iodobenzoate	3,4-Dimethoxybenzoyl chloride	3,4-Dimethylbenzaldehyde	

	A	B	C	B'
Compound 209	Methyl 2-amino-5-iodobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	
Compound 210	Methyl 2-amino-benzoate	Isonicotinoyl chloride hydrochloride	1-Methylpyrrole-2-carbox-aldehyde	
Compound 211	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	1-Methylpyrrole-2-carbox-aldehyde	
Compound 212	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	1-Methylpyrrole-2-carbox-aldehyde	
Compound 213	Methyl 2-aminobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Fluoro-acetophenone	
Compound 214	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	3-Fluoro-acetophenone	
Compound 215	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	3-Methyl-acetophenone	
Compound 216	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	4-Methyl-acetophenone	
Compound 217	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	4-Methyl-acetophenone	
Compound 218	Methyl 2-aminobenzoate	Nicotinoyl chloride hydrochloride	4,5-Dimethyl-2-furancarbox-aldehyde	
Compound 219	Methyl 2-aminobenzoate	Isonicotinoyl chloride hydrochloride	4,5-Dimethyl-2-furancarbox-aldehyde	
Compound 220	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	4,5-Dimethyl-2-furancarbox-aldehyde	
Compound 221	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	4,5-Dimethyl-2-furancarbox-aldehyde	
Compound 222	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	4,5-Dimethyl-2-furancarbox-aldehyde	
Compound 223	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	4,5-Dimethyl-2-furancarbox-aldehyde	
Compound 224	Methyl 2-aminobenzoate	Benzoyl chloride	Benzaldehyde	
Compound 225	Methyl 2-amino-benzoate	Benzoyl chloride	2-Fluoro-benzaldehyde	
Compound 226	Methyl 2-amino-benzoate	Benzoyl chloride	3-Fluoro-benzaldehyde	
Compound 227	Methyl 2-amino-3,4-dimethoxy-benzoate	3,4-Dimethoxy-benzoyl chloride	Benzaldehyde	
Compound 228	Methyl 2-aminobenzoate	Benzoyl chloride	2-Bromo-benzaldehyde	
Compound 229	Methyl 2-aminobenzoate	Benzoyl chloride	o-Tolualdehyde	
Compound 230	Methyl 2-amino-3,4-dimethoxy-benzoate	3,4-Dimethoxy-benzoyl chloride	o-Tolualdehyde	
Compound 231	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	2-Chloro-benzaldehyde	
Compound 232	Methyl 2-aminobenzoate	3,4-Dimethoxy-benzoyl chloride	6-Methoxy-2-naphthaldehyde	

	A	B	C	B'
Compound 233	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	4-Biphenyl-carboxaldehyde	
Compound 234	Methyl 2-aminobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Bromo-benzaldehyde	
Compound 235	Methyl 2-amino-benzoate	Benzoyl chloride	Trans-cinnamaldehyde	
Compound 236	Methyl 2-aminobenzoate	2-Fluorobenzoyl chloride	2-Fluoro-benzaldehyde	
Compound 237	Methyl 2-aminobenzoate	2-Fluorobenzoyl chloride	3-Fluoro-benzaldehyde	
Compound 238	Methyl 2-aminobenzoate	2-Fluorobenzoyl chloride	m-Tolualdehyde	
Compound 239	Methyl 2-amino-benzoate	2-Fluorobenzoyl chloride	2-Hydroxy-3-tert-butylbenz-aldehyde	
Compound 240	Methyl 2-aminobenzoate	3,4-Dimethoxy-benzoyl chloride	4-Nitrobenz-aldehyde	
Compound 241	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	4-Diethylamino-benzaldehyde	
Compound 242	Methyl 2-amino-5-hydroxybenzoate	3,5-Dimethoxy-benzoyl chloride	3-Fluoro-benzaldehyde	
Compound 243	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	2-Pyridyl-carboxaldehyde	
Compound 244	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	2-Pyridyl-carboxaldehyde	
Compound 245	Methyl 2-amino-benzoate	3,4-Dimethoxy-benzoyl chloride	2-Pyridyl-carboxaldehyde	
Compound 246	Methyl 2-amino-5-chlorobenzoate	3,4-Dimethoxy-benzoyl chloride	6-Methyl-2-pyridine-carboxaldehyde	
Compound 247	Methyl 2-aminobenzoate	3,4-Dimethoxy-benzoyl chloride	6-Methyl-2-pyridine-carboxaldehyde	
Compound 248	Methyl 2-amino-5-bromobenzoate	4-tert-butylbenzoyl chloride	m-Tolualdehyde	
Compound 249	Methyl 2-aminobenzoate	Isonicotinoyl chloride hydrochloride	3-Methylaceto-phenone	
Compound 250	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	3-Methylaceto-phenone	
Compound 251	Methyl 2-aminobenzoate	Nicotinoyl chloride hydrochloride	4-Methylaceto-phenone	
Compound 252	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 253	Methyl 2-aminobenzoate	Isonicotinoyl chloride hydrochloride	m-Tolualdehyde	
Vacant number				
Compound 255	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Mercapto-pyridine
Compound 256	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	4-Mercapto-pyridine
Compound 257	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	4-Mercapto-pyridine
Compound 258	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Mercapto-pyridine
Compound 259	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Mercapto-pyridine

	A	B	C	B'
Compound 260	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Mercapto-pyridine
Compound 261	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	2-Mercapto-ethanol
Compound 262	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	2-Mercapto-ethanol
Compound 263	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-Mercapto-ethanol
Compound 264	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercapto-ethanol
Compound 265	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 266	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 267	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-1,2,4-triazole
Compound 268	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-1,2,4-triazole
Compound 269	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	3-Mercapto-1,2,4-triazole
Compound 270	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	3-Mercapto-1,2,4-triazole
Compound 271	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1,2,4-triazole
Compound 272	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-1,2,4-triazole
Compound 273	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-1-propanol
Compound 274	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-1-propanol
Compound 275	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	3-Mercapto-1-propanol
Compound 276	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	3-Mercapto-1-propanol
Compound 277	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1-propanol
Compound 278	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-1-propanol
Compound 279	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-(2-Amino-ethyl)-morpholine
Compound 280	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methylene-diamine
Compound 281	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-(2-Amino-ethyl)-morpholine
Compound 282	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-(2-Amino-ethyl)-morpholine
Compound 283	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	4-(2-Amino-ethyl)-morpholine
Compound 284	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-(2-Amino-ethyl)-morpholine

	A	B	C	B'
Compound 285	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 286	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 287	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 288	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 289	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 290	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 291	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 292	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 293	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-ethylene-diamine
Compound 294	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	N,N-Diethyl-ethylene-diamine
Compound 295	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 296	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 297	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 298	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 299	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 300	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	N-(3-Aminopropyl)diethanolamine
Compound 301	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N-(3-Aminopropyl)diethanolamine
Compound 302	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N-(3-Aminopropyl)diethanolamine

	A	B	C	B'
Compound 303	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 304	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 305	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N-(2-(1-Piperazino)-acetyl)-morpholine
Compound 306	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N-(2-(1-Piperazino)-acetyl)-morpholine
Compound 307	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N-(2-(1-Piperazino)-acetyl)-morpholine
Compound 308	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidino-piperidine
Compound 309	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidino-piperidine
Compound 310	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	4-Piperidino-piperidine
Compound 311	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Piperidino-piperidine
Compound 312	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Piperidino-piperidine
Compound 313	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperidino-piperidine
Compound 314	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Piperidino-piperidine
Compound 315	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxy-benzaldehyde	4-Piperidino-piperidine
Compound 316	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 317	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 318	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 319	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 320	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 321	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 322	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 323	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxy-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 324	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Hydroxy-piperidine
Compound 325	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Hydroxy-piperidine



	A	B	C	B'
Compound 326	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	4-Hydroxy-piperidine
Compound 327	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Hydroxy-piperidine
Compound 328	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Hydroxy-piperidine
Compound 329	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Hydroxy-piperidine
Compound 330	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Hydroxy-piperidine
Compound 331	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	4-Hydroxy-piperidine
Compound 332	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidine-methanol
Compound 333	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidine-methanol
Compound 334	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	4-Piperidine-methanol
Compound 335	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Piperidine-methanol
Compound 336	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Piperidine-methanol
Compound 337	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperidine-methanol
Compound 338	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Piperidine-methanol
Compound 339	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	4-Piperidine-methanol
Compound 340	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidine-ethanol
Compound 341	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1,2,4-triazole
Compound 342	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 343	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 344	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 345	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidino-piperidine
Compound 346	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	Trans-cinnamaldehyde	
Compound 347	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	Trans-cinnamaldehyde	
Compound 348	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	Trans-cinnamaldehyde	
Compound 349	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	Trans-cinnamaldehyde	

	A	B	C	B'
Compound 350	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	3-(2-Hydroxyethoxy)-benzaldehyde	
Compound 351	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	3-(2-Hydroxyethoxy)-benzaldehyde	
Compound 352	Methyl 2-amino-5-bromobenzoate	Nicotinoyl chloride hydrochloride	2-Methoxy-cinnamaldehyde	
Compound 353	Methyl 2-amino-5-bromobenzoate	Isonicotinoyl chloride hydrochloride	2-Methoxy-cinnamaldehyde	
Compound 354	Methyl 2-amino-5-chlorobenzoate	Nicotinoyl chloride hydrochloride	2-Methoxy-cinnamaldehyde	
Compound 355	Methyl 2-amino-5-chlorobenzoate	Isonicotinoyl chloride hydrochloride	2-Methoxy-cinnamaldehyde	
Compound 356	Methyl 2-amino-5-bromobenzoate	Picolinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 357	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	3-Fluoro-benzenethiol
Compound 358	Methyl 2-aminobenzoate	Nicotinoyl chloride hydrochloride	4-Dimethyl-amino-cinnamaldehyde	
Compound 359	Methyl 2-amino-5-chlorobenzoate	Picolinoyl chloride hydrochloride	3-Fluorobenz-aldehyde	
Compound 360	Methyl 2-amino-5-chlorobenzoate	Picolinoyl chloride hydrochloride	4-Fluorobenz-aldehyde	
Compound 361	Methyl 2-amino-5-chlorobenzoate	Picolinoyl chloride hydrochloride	m-Tolualdehyde	
Compound 362	Methyl 2-amino-5-chlorobenzoate	Picolinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 363	Methyl 2-amino-5-chlorobenzoate	Picolinoyl chloride hydrochloride	3,4-Dimethyl-benzaldehyde	
Compound 364	Methyl 2-amino-5-chlorobenzoate	Picolinoyl chloride hydrochloride	4-Chloro-3-trifluoromethyl-benzaldehyde	
Vacant number				
Compound 366	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Mercapto-pyridine
Compound 367	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	p-Tolualdehyde	
Compound 368	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Piperidino-piperidine
Compound 369	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	4-Piperidino-piperidine
Compound 370	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	4-Piperidino-piperidine
Compound 371	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidino-piperidine
Compound 372	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidino-piperidine
Compound 373	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperidino-piperidine
Compound 374	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	4-Piperidino-piperidine
Compound 375	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	4-Piperidino-piperidine
Compound 376	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	4-Piperidino-piperidine

	A	B	C	B'
Compound 377	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	4-Piperidino-piperidine
Compound 378	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	4-Piperidino-piperidine
Compound 379	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 380	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 381	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 382	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 383	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 384	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-tri-fluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 385	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 386	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 387	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 388	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 389	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	3-Mercapto-1,2,4-triazole
Compound 390	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	3-Mercapto-1,2,4-triazole
Compound 391	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	3-Mercapto-1,2,4-triazole
Compound 392	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-1,2,4-triazole
Compound 393	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-tri-fluoromethyl-benzaldehyde	3-Mercapto-1,2,4-triazole
Compound 394	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	2-(Methyl-amino)ethanol
Compound 395	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-(Methyl-amino)ethanol
Compound 396	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-(Methyl-amino)ethanol

	A	B	C	B'
Compound 397	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-(Methyl-amino)ethanol
Compound 398	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-(Methyl-amino)ethanol
Compound 399	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-tri-fluoromethyl-benzaldehyde	2-(Methyl-amino)ethanol
Compound 400	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	2-(Methyl-amino)ethanol
Compound 401	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	2-(Methyl-amino)ethanol
Compound 402	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	2-(Methyl-amino)ethanol
Compound 403	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	2-(Methyl-amino)ethanol
Compound 404	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	Diethanol-amine
Compound 405	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diethanol-amine
Compound 406	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diethanol-amine
Compound 407	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-tri-fluoromethyl-benzaldehyde	Diethanol-amine
Compound 408	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	Diethanol-amine
Compound 409	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	Diethanol-amine
Compound 410	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	Diethanol-amine
Compound 411	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	Diethanol-amine
Compound 412	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	2-(Methyl-amino)ethanol
Compound 413	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-(Methyl-amino)ethanol
Compound 414	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-(Methyl-amino)ethanol
Compound 415	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-(Methyl-amino)ethanol
Compound 416	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-(Methyl-amino)ethanol
Compound 417	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-tri-fluoromethyl-benzaldehyde	2-(Methyl-amino)ethanol
Compound 418	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	2-(Methyl-amino)ethanol
Compound 419	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	2-(Methyl-amino)ethanol
Compound 420	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	2-(Methyl-amino)ethanol
Compound 421	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	2-(Methyl-amino)ethanol
Compound 422	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	2-(Ethyl-amino)ethanol
Compound 423	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-(Ethyl-amino)ethanol
Compound 424	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-(Ethyl-amino)ethanol

	A	B	C	B'
Compound 425	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-(Ethyl-amino)ethanol
Compound 426	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 427	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 428	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 429	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 430	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 431	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 432	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	2-(Ethyl-amino)ethanol
Compound 433	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-(Ethyl-amino)ethanol
Compound 434	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-(Ethyl-amino)ethanol
Compound 435	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-(Ethyl-amino)ethanol
Compound 436	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 437	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 438	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 439	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 440	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 441	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	2-(Ethyl-amino)ethanol
Compound 442	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 443	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 444	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 445	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 446	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 447	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride

	A	B	C	B'
Compound 448	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 449	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 450	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 451	Methyl 2-amino-5-chlorobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 452	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 453	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 454	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 455	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 456	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 457	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 458	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 459	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 460	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 461	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	2-Diethyl-amino-ethanethiol hydrochloride
Compound 462	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluoro-benzaldehyde	1-(2-Dimethyl-aminoethyl)-5-mercapto-tetrazole

	A	B	C	B'
Compound 463	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 464	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 465	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 466	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 467	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 468	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxybenzaldehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 469	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxybenzaldehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 470	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxybenzaldehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 471	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxybenzaldehyde	1-(2-Dimethyl-aminoethyl)-5-mercaptotetrazole
Compound 472	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-diamine
Compound 473	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-diamine
Compound 474	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	N,N-Diethyl-N'-methylene-diamine
Compound 475	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methylene-diamine
Compound 476	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	N,N-Diethyl-N'-methylene-diamine
Compound 477	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N,N-Diethyl-N'-methylene-diamine

	A	B	C	B'
Compound 478	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 479	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 480	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 481	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 482	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Piperidino-piperidine
Compound 483	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Piperidino-piperidine
Compound 484	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	4-Piperidino-piperidine
Compound 485	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidino-piperidine
Compound 486	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidino-piperidine
Compound 487	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperidino-piperidine
Compound 488	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Methoxy-benzaldehyde	4-Piperidino-piperidine
Compound 489	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Methoxy-benzaldehyde	4-Piperidino-piperidine
Compound 490	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Hydroxy-benzaldehyde	4-Piperidino-piperidine
Compound 491	Methyl 2-amino-5-iodobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Hydroxy-benzaldehyde	4-Piperidino-piperidine
Compound 492	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 493	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 494	Methyl 2-amino-5-bromobenzoate	4-Methylbenzoyl chloride	p-Tolualdehyde	
Compound 495	Methyl 2-amino-5-bromobenzoate	Picolinoyl chloride hydrochloride	3-Fluorobenzaldehyde	
Compound 496	Methyl 2-amino-5-bromobenzoate	Picolinoyl chloride hydrochloride	4-Fluorobenzaldehyde	
Compound 497	Methyl 2-amino-5-bromobenzoate	Picolinoyl chloride hydrochloride	m-Tolualdehyde	
Compound 498	Methyl 2-amino-5-bromobenzoate	Picolinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 499	Methyl 2-amino-5-bromobenzoate	Picolinoyl chloride hydrochloride	3,4-Dimethyl-benzaldehyde	
Compound 500	Methyl 2-amino-5-bromobenzoate	Picolinoyl chloride hydrochloride	4-Chloro-3-trifluoromethyl-benzaldehyde	
Compound 501	Methyl 2-amino-5-bromobenzoate	4-Ethoxybenzoyl chloride	3-Fluorobenzaldehyde	
Compound 502	Methyl 2-amino-5-bromobenzoate	4-Ethoxybenzoyl chloride	4-Fluorobenzaldehyde	



	A	B	C	B'
Compound 503	Methyl 2-amino-5-bromobenzoate	4-Ethoxybenzoyl chloride	p-Tolualdehyde	
Compound 504	Methyl 2-amino-5-bromobenzoate	4-Ethoxybenzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 505	Methyl 2-aminobenzoate	Picolinoyl chloride hydrochloride	3-Fluorobenzaldehyde	
Compound 506	Methyl 2-aminobenzoate	Picolinoyl chloride hydrochloride	4-Fluorobenzaldehyde	
Compound 507	Methyl 2-aminobenzoate	Picolinoyl chloride hydrochloride	3,4-Dimethylbenzaldehyde	
Compound 508	Methyl 2-aminobenzoate	Picolinoyl chloride hydrochloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 509	Methyl 2-amino-5-bromobenzoate	Cyclohexanecarbonyl chloride	3-Fluorobenzaldehyde	
Compound 510	Methyl 2-amino-5-bromobenzoate	Isoxazole-5-carbonyl chloride	3-Fluorobenzaldehyde	
Compound 511	Methyl 2-amino-5-bromobenzoate	Isoxazole-5-carbonyl chloride	m-Tolualdehyde	
Compound 512	Methyl 2-amino-5-bromobenzoate	Isoxazole-5-carbonyl chloride	3,4-Dimethylbenzaldehyde	
Compound 513	Methyl 2-amino-5-bromobenzoate	Isoxazole-5-carbonyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 514	Methyl 2-aminobenzoate	2,5-Dimethylfuran-3-carbonyl chloride	3-Fluorobenzaldehyde	
Compound 515	Methyl 2-aminobenzoate	2,5-Dimethylfuran-3-carbonyl chloride	4-Fluorobenzaldehyde	
Compound 516	Methyl 2-aminobenzoate	2,5-Dimethylfuran-3-carbonyl chloride	m-Tolualdehyde	
Compound 517	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3,4-Dimethoxybenzoyl chloride	3-Fluorobenzaldehyde	
Compound 518	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3,4-Dimethoxybenzoyl chloride	m-Tolualdehyde	
Compound 519	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3,4-Dimethoxybenzoyl chloride	p-Tolualdehyde	
Vacant number				
Compound 521	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3,4-Dimethoxybenzoyl chloride	3,4-Dimethylbenzaldehyde	
Compound 522	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3,4-Dimethoxybenzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	
Compound 523	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)benzoyl chloride	3,4-Dimethylbenzaldehyde	3-Mercapto-1,2,4-triazole
Compound 524	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1,2,4-triazole
Compound 525	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)benzoyl chloride	3,4-Dimethylbenzaldehyde	3-Mercapto-1-propanol
Compound 526	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)benzoyl chloride	p-Tolualdehyde	3-Mercapto-1-propanol

	A	B	C	B'
Compound 527	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1-propanol
Compound 528	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-diamine
Compound 529	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-diamine
Compound 530	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methylenediamine
Compound 531	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Piperidino-piperidine
Compound 532	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	1-(2-Hydroxyethyl)-piperazine
Compound 533	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1-(2-Hydroxyethyl)-piperazine
Compound 534	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	1-(2-Hydroxyethyl)piperazine
Compound 535	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	1-(2-Hydroxyethyl)piperazine
Compound 536	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	N,N-Diethylethylenediamine
Compound 537	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethylethylenediamine
Compound 538	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethylethylenediamine
Compound 539	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N,N-Diethylethylenediamine
Compound 540	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanolamine
Compound 541	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	4-Hydroxypiperidine
Compound 542	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Hydroxypiperidine
Compound 543	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Hydroxypiperidine
Compound 544	Methyl 2-amino-5-bromobenzoate	Picolinoyl chloride hydrochloride	p-Tolualdehyde	
Compound 545	Methyl 2-aminobenzoate	Isonicotinoyl chloride hydrochloride	p-Tolualdehyde	

	A	B	C	B'
Compound 546	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 547	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercapto-ethanol
Compound 548	Methyl 2-amino-5-bromobenzoate	3,4-Dimethoxy-benzoyl chloride	3,4-Dimethyl-benzaldehyde	
Compound 549	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	Diethanol-amine
Compound 550	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	Diethanol-amine
Compound 551	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-1,2,4-triazole
Compound 552	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-1,2,4-triazole
Compound 553	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	3-Mercapto-1,2,4-triazole
Compound 554	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	3-Mercapto-1,2,4-triazole
Compound 555	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-1,2,4-triazole
Compound 556	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	3-Mercapto-1,2,4-triazole
Compound 557	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-1-propanol
Compound 558	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-1-propanol
Compound 559	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	3-Mercapto-1-propanol
Compound 560	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	3-Mercapto-1-propanol
Compound 561	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-1-propanol
Compound 562	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	3-Mercapto-1-propanol
Compound 563	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 564	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 565	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine

	A	B	C	B'
Compound 566	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 567	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 568	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 569	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	4-Piperidino-piperidine
Compound 570	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidino-piperidine
Compound 571	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Piperidino-piperidine
Compound 572	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Piperidino-piperidine
Compound 573	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	4-Piperidino-piperidine
Compound 574	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Piperidino-piperidine
Compound 575	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	1-(2-Hydroxyethyl)-piperazine
Compound 576	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1-(2-Hydroxyethyl)-piperazine
Compound 577	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	1-(2-Hydroxyethyl)-piperazine
Compound 578	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	1-(2-Hydroxyethyl)-piperazine
Compound 579	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	1-(2-Hydroxyethyl)-piperazine
Compound 580	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	1-(2-Hydroxyethyl)-piperazine
Compound 581	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	N,N-Diethyl-ethylenediamine
Compound 582	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-ethylenediamine
Compound 583	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N-Diethyl-ethylenediamine
Compound 584	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-ethylenediamine

	A	B	C	B'
Compound 585	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 586	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 587	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 588	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 589	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 590	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 591	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 592	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 593	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Hydroxy-piperidine
Compound 594	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Hydroxy-piperidine
Compound 595	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	4-Hydroxy-piperidine
Compound 596	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Hydroxy-piperidine
Compound 597	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Hydroxy-piperidine
Compound 598	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Hydroxy-piperidine
Compound 599	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidine-methanol
Compound 600	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidine-methanol
Compound 601	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	4-Piperidine-methanol
Compound 602	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Piperidine-methanol
Compound 603	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperidine-methanol
Compound 604	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Piperidine-methanol

	A	B	C	B'
Compound 605	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-1-propanol
Compound 606	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	3-Mercapto-1-propanol
Compound 607	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1-propanol
Compound 608	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-1-propanol
Compound 609	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 610	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 611	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 612	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 613	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 614	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 615	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidino-piperidine
Compound 616	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidino-piperidine
Compound 617	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Piperidino-piperidine
Compound 618	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Piperidino-piperidine
Compound 619	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperidino-piperidine

	A	B	C	B'
Compound 620	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Piperidino-piperidine
Compound 621	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperazine-ethanol
Compound 622	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperazine-ethanol
Compound 623	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	4-Piperazine-ethanol
Compound 624	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Piperazine-ethanol
Compound 625	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperazine-ethanol
Compound 626	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Piperazine-ethanol
Compound 627	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 628	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 629	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 630	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 631	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 632	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 633	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Hydroxy-piperidine
Compound 634	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Hydroxy-piperidine

	A	B	C	B'
Compound 635	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Hydroxypiperidine
Compound 636	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Hydroxypiperidine
Compound 637	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	4-Hydroxypiperidine
Compound 638	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Hydroxypiperidine
Compound 639	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	4-Piperidine-methanol
Compound 640	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidine-methanol
Compound 641	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Piperidine-methanol
Compound 642	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Piperidine-methanol
Compound 643	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	4-Piperidine-methanol
Compound 644	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Piperidine-methanol
Compound 645	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	3-Mercapto-1-propanol
Compound 646	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	3-Mercapto-1,2,4-triazole
Compound 647	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-1,2,4-triazole
Compound 648	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	3-Mercapto-1,2,4-triazole
Compound 649	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1,2,4-triazole



	A	B	C	B'
Compound 650	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-1,2,4-triazole
Compound 651	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	3-Mercapto-1,2,4-triazole
Compound 652	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 653	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-ethylene-diamine
Compound 654	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 655	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 656	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 657	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 658	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-1-propanol
Compound 659	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-1-propanol
Compound 660	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	3-Mercapto-1-propanol
Compound 661	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1-propanol
Compound 662	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-1-propanol
Compound 663	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	3-Mercapto-1-propanol
Compound 664	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 665	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine

	A	B	C	B'
Compound 666	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 667	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 668	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 669	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 670	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	Diisopropanolamine
Compound 671	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanolamine
Compound 672	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	Diisopropanolamine
Compound 673	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Diisopropanolamine
Compound 674	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 675	2-Amino-4,5,6,7-tetrahydrobenzothiophene-3-carboxylic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 676	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercaptoethanol
Compound 677	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercaptoethanol
Compound 678	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	2-Mercaptoethanol
Compound 679	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	2-Mercaptoethanol
Compound 680	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Furfuryl mercaptan
Compound 681	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	Furfuryl mercaptan
Compound 682	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Furfuryl mercaptan
Compound 683	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	Furfuryl mercaptan
Compound 684	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	N,N'-Dimethyl-1,3-propanediamine

	A	B	C	B'
Compound 685	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N'-Dimethyl-1,3-propanediamine
Compound 686	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	Furfuryl mercaptan
Compound 687	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	Furfuryl mercaptan
Compound 688	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	Furfuryl mercaptan
Compound 689	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	Furfuryl mercaptan
Compound 690	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	N,N'-Dimethyl-1,6-hexanediamine
Compound 691	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	2-Mercaptoethanesulfonic acid sodium salt
Compound 692	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-Mercaptoethanesulfonic acid sodium salt
Compound 693	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercaptoethanesulfonic acid sodium salt
Compound 694	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	2-Mercaptoethanesulfonic acid sodium salt
Compound 695	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	2-Mercaptoethanol
Compound 696	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercaptoethanol
Compound 697	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	2-Mercaptoethanol
Compound 698	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	2-Mercaptoethanol
Compound 699	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	Furfuryl mercaptan
Compound 700	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	Furfuryl mercaptan
Compound 701	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N,N'-Dimethyl-1,3-propanediamine
Compound 702	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N'-Dimethyl-1,3-propanediamine
Compound 703	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	2-Mercaptoethanesulfonic acid sodium salt

	A	B	C	B'
Compound 704	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N'-Dimethyl-1,6-hexanediamine
Compound 705	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	N,N'-Dimethyl-1,6-hexanediamine
Compound 706	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N'-Dimethyl-1,6-hexanediamine
Compound 707	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanolamine
Compound 708	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	2-Mercaptoethane-sulfonic acid sodium salt
Compound 709	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercaptoethane-sulfonic acid sodium salt
Compound 710	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 711	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 712	Methyl 3-amino-4-methylthiophene-2-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 713	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-(2-Aminoethyl)-morpholine
Compound 714	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-(2-Aminoethyl)-morpholine
Compound 715	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-(2-Aminoethyl)-morpholine
Compound 716	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxy-benzaldehyde	4-(2-Aminoethyl)-morpholine
Compound 717	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1-(4-Fluorophenyl)-piperazine
Compound 718	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	Diisopropanolamine
Compound 719	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	Diisopropanolamine
Compound 720	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Diisopropanolamine
Compound 721	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanolamine
Compound 722	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanolamine

	A	B	C	B'
Compound 723	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	Diisopropanol-amine
Compound 724	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	Cineferin
Compound 725	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Cineferin
Compound 726	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	Cineferin
Compound 727	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	Cineferin
Compound 728	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N-(2-(1-Piperazino)-acetyl)-morpholine
Compound 729	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	N-(2-(1-Piperazino)-acetyl)-morpholine
Compound 730	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	N-(2-(1-Piperazino)-acetyl)-morpholine
Compound 731	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N-(2-(1-Piperazino)-acetyl)-morpholine
Compound 732	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	N-(2-(1-Piperazino)-acetyl)-morpholine
Compound 733	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	Bis(2-ethoxyethyl)-amine
Compound 734	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Bis(2-ethoxyethyl)-amine
Compound 735	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	Bis(2-ethoxyethyl)-amine
Compound 736	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	Bis(2-ethoxyethyl)amine
Compound 737	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Bis(2-ethoxyethyl)amine
Compound 738	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	Bis(2-ethoxyethyl)amine
Compound 739	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	Bis(2-ethoxyethyl)amine
Compound 740	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	Bis(2-ethoxyethyl)amine
Compound 741	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidine-ethanol
Compound 742	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	4-Piperidine-ethanol
Compound 743	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Piperidine-ethanol
Compound 744	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Piperidine-ethanol
Compound 745	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethylbenzaldehyde	4-Piperidine-ethanol
Compound 746	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxybenzaldehyde	4-Piperidine-ethanol

	A	B	C	B'
Compound 747	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Morpholine-4-yl-1-phenyl-ethylamine
Compound 748	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Morpholine-4-yl-1-phenyl-ethylamine
Compound 749	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Amino-1,2-diethyl-pyrazolidine
Compound 750	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Amino-1,2-diethyl-pyrazolidine
Compound 751	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Amino-1,2-diethyl-pyrazolidine
Compound 752	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Amino-1,2-diethyl-pyrazolidine
Compound 753	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Amino-1,2-diethyl-pyrazolidine
Compound 754	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Amino-1,2-diethyl-pyrazolidine
Compound 755	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Amino-1,2-diethyl-pyrazolidine
Compound 756	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Amino-1,2-diethyl-pyrazolidine
Compound 757	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N-(3-Amino-propyl)-N-methylaniline
Compound 758	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N-(3-Amino-propyl)-N-methylaniline
Compound 759	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	N-(3-Amino-propyl)-N-methylaniline
Compound 760	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	N-(3-Amino-propyl)-N-methylaniline
Compound 761	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N-(3-Amino-propyl)-N-methylaniline
Compound 762	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N-(3-Amino-propyl)-N-methylaniline
Compound 763	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxy-benzaldehyde	N-(3-Amino-propyl)-N-methylaniline
Compound 764	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-(Ethylthio)-ethylamine
Compound 765	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-(Ethylthio)-ethylamine
Compound 766	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	2-(Ethylthio)-ethylamine
Compound 767	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-(Ethylthio)-ethylamine
Compound 768	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	2-(Ethylthio)-ethylamine

	A	B	C	B'
Compound 769	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-(Ethylthio)-ethylamine
Compound 770	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-(Ethylthio)-ethylamine
Compound 771	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxy-benzaldehyde	2-(Ethylthio)-ethylamine
Compound 772	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1-(2-Pyridyl)-piperazine
Compound 773	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1-(2-Pyridyl)-piperazine
Compound 774	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	1-(2-Pyridyl)-piperazine
Compound 775	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	1-(2-Pyridyl)-piperazine
Compound 776	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1-(2-Pyridyl)-piperazine
Compound 777	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	1-(2-Pyridyl)-piperazine
Compound 778	Methyl 2-amino-5-bromobenzoate	4-(Chloromethyl)-benzoyl chloride	m-Methoxy-benzaldehyde	1-(2-Pyridyl)-piperazine
Compound 779	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 780	Ethyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 781	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethane-sulfonic acid
Compound 782	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercapto-ethane-sulfonic acid
Compound 783	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	2-Mercapto-ethane-sulfonic acid
Compound 784	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethane-sulfonic acid
Compound 785	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethane-sulfonic acid
Compound 786	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diethanol-amine
Compound 787	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diethanol-amine
Compound 788	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	Diethanol-amine
Compound 789	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Diethanol-amine
Compound 790	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diethanol-amine
Compound 791	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diethanol-amine

	A	B	C	B'
Compound 792	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 793	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 794	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 795	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 796	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 797	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 798	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidine-methanol
Compound 799	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidine-methanol
Compound 800	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	4-Piperidine-methanol
Compound 801	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Piperidine-methanol
Compound 802	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperidine-methanol
Compound 803	Ethyl-2-amino-benzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Piperidine-methanol
Compound 804	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 805	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 806	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 807	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 808	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 809	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine



	A	B	C	B'
Compound 810	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 811	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-ethylene-diamine
Compound 812	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	N,N-Diethyl-ethylene-diamine
Compound 813	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	N,N-Diethyl-ethylene-diamine
Compound 814	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 815	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-ethylene-diamine
Compound 816	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	4-Piperidine-methanol
Compound 817	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperidine-methanol
Compound 818	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	4-Piperidine-methanol
Compound 819	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	4-Piperidine-methanol
Compound 820	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperidine-methanol
Compound 821	Ethyl-2-aminocyclopenta(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	4-Piperidine-methanol
Compound 822	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Dimethyl-amine hydrochloride
Compound 823	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Dimethyl-amine hydrochloride
Compound 824	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Dimethyl-amine hydrochloride
Compound 825	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Dimethyl-amine hydrochloride

	A	B	C	B'
Compound 826	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1-(2-Pyrimidyl)-piperazine
Compound 827	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1-(2-Pyrimidyl)-piperazine
Compound 828	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	1-(2-Pyrimidyl)-piperazine
Compound 829	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	1-(2-Pyrimidyl)-piperazine
Compound 830	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1-(2-Pyrimidyl)-piperazine
Compound 831	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	1-(2-Pyrimidyl)-piperazine
Compound 832	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1,4-Dioxa-8-azaspiro[4,5]decane
Compound 833	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1,4-Dioxa-8-azaspiro[4,5]decane
Compound 834	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	1,4-Dioxa-8-azaspiro[4,5]decane
Compound 835	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	1,4-Dioxa-8-azaspiro[4,5]decane
Compound 836	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1,4-Dioxa-8-azaspiro[4,5]decane
Compound 837	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	1,4-Dioxa-8-azaspiro[4,5]decane
Compound 838	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 839	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 840	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 841	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3-Fluoro-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 842	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 843	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine

	A	B	C	B'
Compound 844	Ethyl 2-amino-4,5-dimethylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 845	Ethyl 2-amino-4,5-dimethylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 846	Ethyl 2-amino-4,5-dimethylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Fluoro-benzaldehyde	Diisopropanol-amine
Compound 847	Ethyl 2-amino-4,5-dimethylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 848	Ethyl 2-amino-4,5-dimethylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 849	Ethyl 2-amino-4,5,6,7-tetrahydrobenzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 850	Ethyl 2-amino-4,5,6,7-tetrahydrobenzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 851	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 852	Methyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 853	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 854	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 855	Ethyl 2-amino-4,5,6,7-tetrahydrobenzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 856	Ethyl 2-amino-4,5,6,7-tetrahydrobenzo(B)thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 857	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 858	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 859	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 860	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluoro-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine

	A	B	C	B'
Compound 861	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 862	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 863	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methylene-ethylenediamine
Compound 864	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	4-Piperazineethanol
Compound 865	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Piperazineethanol
Compound 866	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Piperazineethanol
Compound 867	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Piperazineethanol
Compound 868	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Piperazineethanol
Compound 869	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Piperazineethanol
Compound 870	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	4-Hydroxypiperidine
Compound 871	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	4-Hydroxypiperidine
Compound 872	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	4-Hydroxypiperidine
Compound 873	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	4-Hydroxypiperidine
Compound 874	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	4-Hydroxypiperidine
Compound 875	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	4-Hydroxypiperidine

	A	B	C	B'
Compound 876	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-(Diethyl-amino)-ethanethiol
Compound 877	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-(Diethyl-amino)-ethanethiol
Compound 878	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-(Diethyl-amino)-ethanethiol
Compound 879	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenz-aldehyde	2-(Diethyl-amino)-ethanethiol
Compound 880	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 881	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercapto-ethanol
Compound 882	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	2-Mercapto-ethanol
Compound 883	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	2-Mercapto-ethanol
Compound 884	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 885	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol
Compound 886	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-propionic acid
Compound 887	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-propionic acid
Compound 888	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenz-aldehyde	3-Mercapto-propionic acid
Compound 889	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-propionic acid
Compound 890	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	3-Mercapto-propionic acid

	A	B	C	B'
Compound 891	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Mercapto-acetic acid
Compound 892	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Mercapto-acetic acid
Compound 893	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1,2,3,4-Tetrahydropyrido-[4,3-b][1,8]-naphthyridine
Compound 894	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1,2,3,4-Tetrahydropyrido-[4,3-b][1,8]-naphthyridine
Compound 895	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	1,2,3,4-Tetrahydropyrido-[4,3-b][1,8]-naphthyridine
Compound 896	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	1,2,3,4-Tetrahydropyrido-[4,3-b][1,8]-naphthyridine
Compound 897	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1,2,3,4-Tetrahydropyrido-[4,3-b][1,8]-naphthyridine
Compound 898	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	1,2,3,4-Tetrahydropyrido-[4,3-b][1,8]-naphthyridine
Compound 899	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-1,2-propanediol
Compound 900	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-1,2-propanediol
Compound 901	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	3-Mercapto-1,2-propanediol
Compound 902	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	3-Mercapto-1,2-propanediol
Compound 903	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-1,2-propanediol
Compound 904	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	3-Mercapto-1,2-propanediol
Compound 905	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine

	A	B	C	B'
Compound 906	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 907	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 908	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 909	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 910	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 911	2-Amino-5-dipropylamino-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 912	2-Amino-5-dipropylamino-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 913	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	N,N-bis(2-hydroxyethyl)-ethylene-diamine
Compound 914	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-bis(2-hydroxyethyl)-ethylene-diamine
Compound 915	2-Amino-5-piperidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-bis(2-hydroxyethyl)-ethylene-diamine
Compound 916	2-Amino-5-pyrrolidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 917	2-Amino-5-pyrrolidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 918	2-Amino-5-pyrrolidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 919	2-Amino-5-pyrrolidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethylbenzaldehyde	2-Mercaptoethanol
Compound 920	2-Amino-5-pyrrolidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercaptoethanol

	A	B	C	B'
Compound 921	2-Amino-5-pyrrolidine-1-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol
Compound 922	2-Amino-5-(4-methyl-[1,4]diazepin-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 923	2-Amino-5-[4-(2-hydroxy-ethyl)-piperazine-1-yl]-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 924	2-Amino-5-[4-(2-hydroxy-ethyl)-piperazine-1-yl]-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 925	1-(4-Amino-3-methoxycarbonyl-phenyl)-piperidine-3-carboxylic acid	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 926	2-Amino-5-thiomorpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 927	2-Amino-5-thiomorpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 928	2-Amino-5-thiomorpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol
Compound 929	2-Amino-5-thiomorpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 930	Methyl 2-aminothiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Dimethyl-amine hydrochloride
Compound 931	2-Amino-5-(4-methyl-[1,4]diazepin-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 932	2-Amino-5-(4-methyl-[1,4]diazepin-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 933	2-Amino-5-(4-methyl-[1,4]diazepin-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 934	1-(4-Amino-3-methoxycarbonyl-phenyl)-piperidine-3-carboxylic acid	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol



	A	B	C	B'
Compound 935	2-Amino-5-piperidine-1-yl-benzoic acid ethyl ester	3,4-Dimethoxy-benzoyl chloride	3,4-Dimethyl-benzaldehyde	
Compound 936	2-Amino-5-piperidine-1-yl-benzoic acid ethyl ester	3,4-Dimethoxy-benzoyl chloride	Nicotinaldehyde	
Compound 937	2-Amino-5-piperidine-1-yl-benzoic acid ethyl ester	3,4-Dimethoxy-benzoyl chloride	Imidazole-2-carboxaldehyde	
Compound 938	2-Amino-5-piperidine-1-yl-benzoic acid ethyl ester	3,4-Dimethoxy-benzoyl chloride	Vanillin	
Compound 939	2-Amino-5-morpholine-4-yl-benzoic acid ethyl ester	3,4-Dimethoxy-benzoyl chloride	3,4-Dimethyl-benzaldehyde	
Compound 940	2-Amino-5-morpholine-4-yl-benzoic acid ethyl ester	3,4-Dimethoxy-benzoyl chloride	Vanillin	
Compound 941	2-Amino-5-morpholine-4-yl-benzoic acid ethyl ester	3,4-Dimethoxy-benzoyl chloride	p-Methoxy-benzaldehyde	
Compound 942	2-Amino-5-piperidine-1-yl-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 943	2-Amino-5-hydroxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 944	2-Amino-5-(2-oxo-pyrrolidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 945	2-Amino-5-(2-oxo-pyrrolidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 946	2-Amino-5-(2-oxo-pyrrolidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	Diisopropanol-amine
Compound 947	2-Amino-5-(2-oxo-pyrrolidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Fluorobenzaldehyde	Diisopropanol-amine
Compound 948	2-Amino-5-(2-oxo-pyrrolidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 949	2-Amino-5-hydroxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 950	2-Amino-5-hydroxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine

	A	B	C	B'
Compound 951	2-Amino-5-hydroxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 952	2-Amino-5-hydroxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 953	2-Amino-5-hydroxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 954	2-Amino-5-hydroxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 955	Methyl 2-aminothiophene-3-carboxylate	3,4-Dimethoxy-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	
Compound 956	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diethylamine
Compound 957	Ethyl 2-amino-4-methylthiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diethylamine
Compound 958	2-Amino-5-piperidine-1-yl-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 959	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Diisopropanol-amine
Compound 960	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 961	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 962	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 963	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 964	2-Amino-nicotinoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Diisopropanol-amine
Compound 965	2-Amino-nicotinoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 966	2-Amino-nicotinoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 967	2-Amino-nicotinoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 968	2-Amino-nicotinoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 969	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	1-(2-Hydroxyethyl)-piperazine

	A	B	C	B'
Compound 970	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 971	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 972	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 973	3-Amino-naphthalene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 974	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Diisopropanol-amine
Compound 975	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	m-Tolualdehyde	Diisopropanol-amine
Compound 976	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 977	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 978	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 979	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	Diisopropanol-amine
Compound 980	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 981	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 982	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 983	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 984	4-Amino-thiophene-3-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxybenzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 985	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 986	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	Diisopropanol-amine
Compound 987	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Diisopropanol-amine
Compound 988	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	Diisopropanol-amine

	A	B	C	B'
Compound 989	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	Diisopropanol-amine
Compound 990	2-Amino-5-fluorobenzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	Diisopropanol-amine
Compound 991	3-Amino-5-tert-butyl-thiophene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	1-(2-Hydroxy-ethyl)-piperazine
Compound 992	3-Amino-thiophene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	Diisopropanol-amine
Compound 993	3-Amino-thiophene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	Diisopropanol-amine
Compound 995	3-Amino-thiophene-2-carboxylic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	Diethylamine
Compound 996	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluoro-acetophenone	Diisopropanol-amine
Compound 997	Methyl 2-amino-5-bromobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy acetophenone	Diisopropanol-amine
Compound 998	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-(3-Dimethyl-amino-propoxy)-benzaldehyde	Diisopropanol-amine
Compound 999	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-(3-Dimethyl-amino-propoxy)-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1000	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	(4-Formyl-phenoxy)-acetic acid	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1001	2-Amino-4,5,6,7-tetrahydro-benzothiophene-3-carboxylic acid	3-(Chloromethyl)-benzoyl chloride	4-Trifluoro-methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1002	2-Amino-4,5,6,7-tetrahydro-benzothiophene-3-carboxylic acid	3-(Chloromethyl)-benzoyl chloride	4-(2-Hydroxy-ethoxy)-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1003	2-Amino-4,5,6,7-tetrahydro-benzothiophene-3-carboxylic acid	3-(Chloromethyl)-benzoyl chloride	3-Fluoro-acetophenone	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1004	Methyl 2-amino-5-chlorobenzoate	Quinoxaline-2-carbonyl chloride	3-Fluorobenz-aldehyde	
Compound 1005	Methyl 2-amino-5-chlorobenzoate	Quinoxaline-2-carbonyl chloride	3,4-Dimethyl-benzaldehyde	
Compound 1006	Methyl 2-amino-5-chlorobenzoate	Quinoxaline-2-carbonyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	
Compound 1007	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	3-Mercapto-propane-1,2-diol
Compound 1008	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-propane-1,2-diol

	A	B	C	B'
Compound 1009	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1010	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1011	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1012	Methyl 2-amino-5-chlorobenzoate	3-(Chloromethyl)-benzoyl chloride	4-Trifluoro-methoxy-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1013	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	3-Mercapto-propane-1,2-diol
Compound 1014	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-propane-1,2-diol
Compound 1015	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1016	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1017	2-Amino-5-methoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	3-Mercapto-propane-1,2-diol
Compound 1018	2-Amino-5-methoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	3-Mercapto-propane-1,2-diol
Compound 1019	2-Amino-5-methoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1020	2-Amino-5-methoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1021	2-Amino-5-methoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	3-Mercapto-propane-1,2-diol
Compound 1022	2-Amino-5-methoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1023	2-Amino-5-methoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1024	2-Amino-5-methoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1025	2-Amino-5-methoxy-ethoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenz-aldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine

	A	B	C	B'
Compound 1026	2-Amino-5-methoxy-ethoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1027	2-Amino-5-methoxy-ethoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1028	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1029	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1030	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1031	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1032	2-Amino-4,5-bis-(2-methoxy-ethoxy)-benzoic acid ethyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1033	2-Amino-5-[2-(2-methoxy-ethoxy)-ethoxy]-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1034	2-Amino-5-[2-(2-methoxy-ethoxy)-ethoxy]-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1035	2-Amino-5-[2-(2-methoxy-ethoxy)-ethoxy]-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1036	2-Amino-5-[2-(2-methoxy-ethoxy)-ethoxy]-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1037	2-Amino-5-[2-(2-methoxy-ethoxy)-ethoxy]-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1038	2-Amino-5-(3-piperidine-1-yl-propoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1039	2-Amino-5-(3-piperidine-1-yl-propoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 1040	2-Amino-5-(3-piperidine-1-yl-propoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol

	A	B	C	B'
Compound 1041	2-Amino-5-(3-piperidine-1-yl-propoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 1042	2-Amino-5-(2-piperidine-1-yl-ethoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercapto-ethanol
Compound 1043	2-Amino-5-(2-piperidine-1-yl-ethoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 1044	2-Amino-5-(2-piperidine-1-yl-ethoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 1045	2-Amino-5-(2-piperidine-1-yl-ethoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol
Compound 1046	2-Amino-5-cyclohexylmethoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1047	2-Amino-5-cyclohexylmethoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1048	2-Amino-5-cyclohexylmethoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1049	2-Amino-5-cyclohexylmethoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1050	2-Amino-5-cyclohexylmethoxy-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1051	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	2-Mercapto-ethanol
Compound 1052	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	2-Mercapto-ethanol
Compound 1053	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 1054	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	2-Mercapto-ethanol
Compound 1055	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol

	A	B	C	B'
Compound 1056	Ethyl 2-amino-4,5,6,7-tetrahydrobenzo(B)-thiophene-3-carboxylate	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	1,1,7,7-Tetraethyl-diethylene-triamine
Compound 1057	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Fluorobenzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1058	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Tolualdehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1059	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1060	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	4-Chloro-3-trifluoromethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1061	2-Amino-5-(4-fluoro-butoxy)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1062	2-Amino-5-(4-Hydroxypiperidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Trifluoromethyl-4-chloro-benzaldehyde	2-Mercapto-ethanol
Compound 1063	2-Amino-5-(4-hydroxymethyl-piperidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Trifluoromethyl-4-chloro-benzaldehyde	2-Mercapto-ethanol
Compound 1064	2-Amino-5-morpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol
Compound 1065	2-Amino-5-morpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Trifluoromethyl-4-chloro-benzaldehyde	2-Mercapto-ethanol
Compound 1066	2-Amino-5-morpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol
Compound 1067	2-Amino-5-[1,4']bipiperidinyl-1'-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Trifluoromethyl-4-chloro-benzaldehyde	2-Mercapto-ethanol
Compound 1068	2-Amino-5-[1,4']bipiperidinyl-1'-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol
Compound 1069	2-Amino-5-(4-methyl-piperidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	2-Mercapto-ethanol



	A	B	C	B'
Compound 1070	2-Amino-5-(4-methyl-piperidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Trifluoro-methyl-4-chloro-benzaldehyde	2-Mercapto-ethanol
Compound 1071	2-Amino-5-(4-methyl-piperidine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol
Compound 1072	2-Amino-5-(4-methyl-piperazine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Trifluoro-methyl-4-chloro-benzaldehyde	2-Mercapto-ethanol
Compound 1073	2-Amino-5-(4-methyl-piperazine-1-yl)-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	2-Mercapto-ethanol
Compound 1074	2-Amino-5-morpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3,4-Dimethyl-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1075	2-Amino-5-morpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	3-Trifluoro-methyl-4-chloro-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine
Compound 1076	2-Amino-5-morpholine-4-yl-benzoic acid methyl ester	3-(Chloromethyl)-benzoyl chloride	p-Methoxy-benzaldehyde	N,N-Diethyl-N'-methyl-ethylene-diamine

Starting compounds and reaction paths used in the synthesis of compounds corresponding to compounds A in synthesizing compounds 853, 854, 857 to 929, 931 to 942, 944 to 948, 958 to 973, 985 to 990, 1013 to 1055, and 1057 to 1076 are shown in Table 2. In the table, 5 compounds A', D, and E correspond to compounds described in Examples and schemes A to H.

Table 2

	A'	D	E	Reaction path
Compound 853	2-Amino-5-fluorobenzoic acid			Scheme G
Compound 854	2-Amino-5-fluorobenzoic acid			Scheme G
Compound 857	2-Amino-5-fluorobenzoic acid			Scheme G
Compound 858	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 859	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 860	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 861	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 862	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 863	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 864	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 865	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 866	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 867	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 868	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 869	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 870	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 871	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 872	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 873	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 874	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 875	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 876	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 877	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 878	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 879	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 880	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 881	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 882	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A
Compound 883	5-Chloro-2-nitrobenzoic acid	Piperidine		Scheme A

	A'	D	E	Reaction path
Compound 884	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 885	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 886	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 887	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 888	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 889	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 890	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 891	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 892	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 893	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 894	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 895	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 896	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 897	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 898	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 899	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 900	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 901	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 902	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 903	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 904	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 905	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 906	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 907	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 908	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 909	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 910	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 911	5-Amino-2-nitro-benzoic acid methyl ester	Propionaldehyde		Scheme H
Compound 912	5-Amino-2-nitro-benzoic acid methyl ester	Propionaldehyde		Scheme H

	A'	D	E	Reaction path
Compound 913	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 914	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 915	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 916	5-Chloro-2-nitro-benzoic acid	Pyrrolidine		Scheme A
Compound 917	5-Chloro-2-nitro-benzoic acid	Pyrrolidine		Scheme A
Compound 918	5-Chloro-2-nitro-benzoic acid	Pyrrolidine		Scheme A
Compound 919	5-Chloro-2-nitro-benzoic acid	Pyrrolidine		Scheme A
Compound 920	5-Chloro-2-nitro-benzoic acid	Pyrrolidine		Scheme A
Compound 921	5-Chloro-2-nitro-benzoic acid	Pyrrolidine		Scheme A
Compound 922	5-Chloro-2-nitro-benzoic acid	1-Methyl-homopiperazine		Scheme A
Compound 923	5-Chloro-2-nitro-benzoic acid	1-Piperazineethanol		Scheme A
Compound 924	5-Chloro-2-nitro-benzoic acid	1-Piperazineethanol		Scheme A
Compound 925	5-Chloro-2-nitro-benzoic acid	3-Piperidine-carboxylic acid		Scheme A
Compound 926	5-Chloro-2-nitro-benzoic acid	Thiomorpholine		Scheme A
Compound 927	5-Chloro-2-nitro-benzoic acid	Thiomorpholine		Scheme A
Compound 928	5-Chloro-2-nitro-benzoic acid	Thiomorpholine		Scheme A
Compound 929	5-Chloro-2-nitro-benzoic acid	Thiomorpholine		Scheme A
Compound 931	5-Chloro-2-nitro-benzoic acid	1-Methyl-homopiperazine		Scheme A
Compound 932	5-Chloro-2-nitro-benzoic acid	1-Methyl-homopiperazine		Scheme A
Compound 933	5-Chloro-2-nitro-benzoic acid	1-Methyl-homopiperazine		Scheme A
Compound 934	5-Chloro-2-nitro-benzoic acid	3-Piperidine-carboxylic acid		Scheme A
Compound 935	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 936	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 937	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 938	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 939	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 940	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 941	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 942	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 944	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D

	A'	D	E	Reaction path
Compound 945	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 946	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 947	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 948	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 958	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 959	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 960	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 961	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 962	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 963	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 964	2-Amino-nicotinoic acid			Scheme G
Compound 965	2-Amino-nicotinoic acid			Scheme G
Compound 966	2-Amino-nicotinoic acid			Scheme G
Compound 967	2-Amino-nicotinoic acid			Scheme G
Compound 968	2-Amino-nicotinoic acid			Scheme G
Compound 969	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 970	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 971	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 972	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 973	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 985	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 986	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 987	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 988	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 989	2-Amino-5-fluoro-benzoic acid			Scheme G

	A'	D	E	Reaction path
Compound 990	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 1013	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1014	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1015	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1016	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1017	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1018	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1019	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1020	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1021	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1022	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1023	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1024	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1025	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-methoxy-ethane		Scheme B
Compound 1026	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-methoxy-ethane		Scheme B
Compound 1027	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-methoxy-ethane		Scheme B
Compound 1028	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1029	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1030	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1031	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1032	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1033	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1034	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1035	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B

	A'	D	E	Reaction path
Compound 1036	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1037	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1038	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-3-chloropropane	Piperidine	Scheme C
Compound 1039	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-3-chloropropane	Piperidine	Scheme C
Compound 1040	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-3-chloropropane	Piperidine	Scheme C
Compound 1041	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-3-chloropropane	Piperidine	Scheme C
Compound 1042	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-2-chloroethane	Piperidine	Scheme C
Compound 1043	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-2-chloroethane	Piperidine	Scheme C
Compound 1044	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-2-chloroethane	Piperidine	Scheme C
Compound 1045	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-2-chloroethane	Piperidine	Scheme C
Compound 1046	5-Hydroxy-2-nitrobenzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1047	5-Hydroxy-2-nitrobenzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1048	5-Hydroxy-2-nitrobenzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1049	5-Hydroxy-2-nitrobenzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1050	5-Hydroxy-2-nitrobenzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1051	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1052	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1053	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1054	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1055	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1057	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1058	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1059	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1060	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1061	5-Hydroxy-2-nitrobenzoic acid	1-Bromo-4-fluorobutane		Scheme B
Compound 1062	5-Chloro-2-nitrobenzoic acid	4-Hydroxypiperidine		Scheme A
Compound 1063	5-Chloro-2-nitrobenzoic acid	4-Piperidinemethanol		Scheme A
Compound 1064	5-Chloro-2-nitrobenzoic acid	Morpholine		Scheme A
Compound 1065	5-Chloro-2-nitrobenzoic acid	Morpholine		Scheme A



	A'	D	E	Reaction path
Compound 1066	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 1067	5-Chloro-2-nitro-benzoic acid	4-Piperidino-piperidine		Scheme A
Compound 1068	5-Chloro-2-nitro-benzoic acid	4-Piperidino-piperidine		Scheme A
Compound 1069	5-Chloro-2-nitro-benzoic acid	4-Methylpiperidine		Scheme A
Compound 1070	5-Chloro-2-nitro-benzoic acid	4-Methylpiperidine		Scheme A
Compound 1071	5-Chloro-2-nitro-benzoic acid	4-Methylpiperidine		Scheme A
Compound 1072	5-Chloro-2-nitro-benzoic acid	4-Methylpiperazine		Scheme A
Compound 1073	5-Chloro-2-nitro-benzoic acid	4-Methylpiperazine		Scheme A
Compound 1074	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 1075	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 1076	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A

	A'	D	E	Reaction path
Compound 935	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 936	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 937	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 938	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 939	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 940	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 941	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 942	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 944	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 945	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 946	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 947	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 948	5-Amino-2-nitro-benzoic acid	4-Chloro-butyryl chloride		Scheme D
Compound 958	5-Chloro-2-nitro-benzoic acid	Piperidine		Scheme A
Compound 959	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 960	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 961	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 962	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 963	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 964	2-Amino-nicotinoic acid			Scheme G
Compound 965	2-Amino-nicotinoic acid			Scheme G
Compound 966	2-Amino-nicotinoic acid			Scheme G
Compound 967	2-Amino-nicotinoic acid			Scheme G
Compound 968	2-Amino-nicotinoic acid			Scheme G
Compound 969	3-Amino-naphthalene-2-carboxylic acid			Scheme G

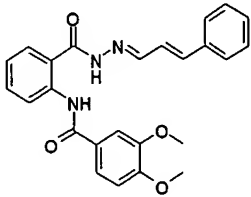
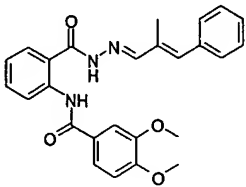
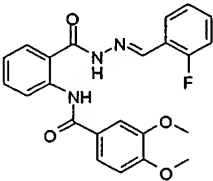
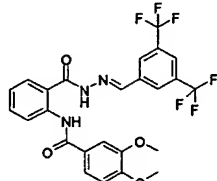
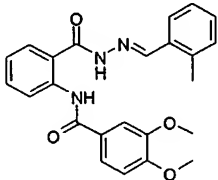
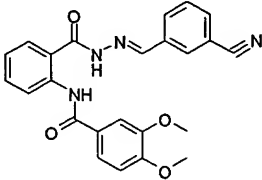
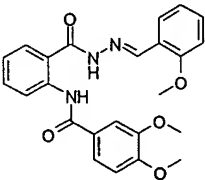
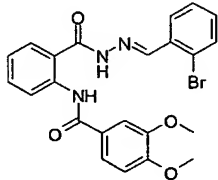
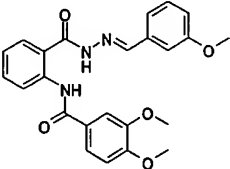
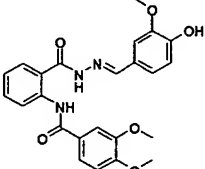
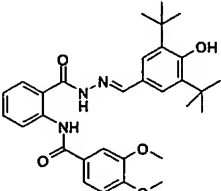
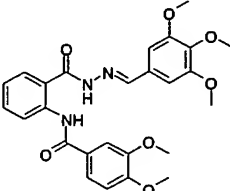
	A'	D	E	Reaction path
Compound 970	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 971	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 972	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 973	3-Amino-naphthalene-2-carboxylic acid			Scheme G
Compound 985	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 986	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 987	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 988	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 989	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 990	2-Amino-5-fluoro-benzoic acid			Scheme G
Compound 1013	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1014	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1015	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1016	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1017	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1018	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1019	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1020	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1021	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1022	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1023	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1024	5-Methoxy-2-nitro-benzoic acid			Scheme E
Compound 1025	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-methoxy-ethane		Scheme B
Compound 1026	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-methoxy-ethane		Scheme B
Compound 1027	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-methoxy-ethane		Scheme B
Compound 1028	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F

	A'	D	E	Reaction path
Compound 1029	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1030	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1031	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1032	3,4-Dihydroxy-benzoic acid ethyl ester	1-Bromo-2-methoxy-ethane		Scheme F
Compound 1033	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1034	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1035	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1036	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1037	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-(2-methoxy-ethoxy)-ethane		Scheme B
Compound 1038	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-3-chloropropane	Piperidine	Scheme C
Compound 1039	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-3-chloropropane	Piperidine	Scheme C
Compound 1040	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-3-chloropropane	Piperidine	Scheme C
Compound 1041	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-3-chloropropane	Piperidine	Scheme C
Compound 1042	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-chloroethane	Piperidine	Scheme C
Compound 1043	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-chloroethane	Piperidine	Scheme C
Compound 1044	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-chloroethane	Piperidine	Scheme C
Compound 1045	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-2-chloroethane	Piperidine	Scheme C
Compound 1046	5-Hydroxy-2-nitro-benzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1047	5-Hydroxy-2-nitro-benzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1048	5-Hydroxy-2-nitro-benzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1049	5-Hydroxy-2-nitro-benzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1050	5-Hydroxy-2-nitro-benzoic acid	Bromomethyl-cyclohexane		Scheme B
Compound 1051	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1052	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1053	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1054	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B

	A'	D	E	Reaction path
Compound 1055	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1057	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1058	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1059	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1060	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1061	5-Hydroxy-2-nitro-benzoic acid	1-Bromo-4-fluoro-butane		Scheme B
Compound 1062	5-Chloro-2-nitro-benzoic acid	4-Hydroxy-piperidine		Scheme A
Compound 1063	5-Chloro-2-nitro-benzoic acid	4-Piperidine-methanol		Scheme A
Compound 1064	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 1065	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 1066	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 1067	5-Chloro-2-nitro-benzoic acid	4-Piperidino-piperidine		Scheme A
Compound 1068	5-Chloro-2-nitro-benzoic acid	4-Piperidino-piperidine		Scheme A
Compound 1069	5-Chloro-2-nitro-benzoic acid	4-Methylpiperidine		Scheme A
Compound 1070	5-Chloro-2-nitro-benzoic acid	4-Methylpiperidine		Scheme A
Compound 1071	5-Chloro-2-nitro-benzoic acid	4-Methylpiperidine		Scheme A
Compound 1072	5-Chloro-2-nitro-benzoic acid	4-Methylpiperazine		Scheme A
Compound 1073	5-Chloro-2-nitro-benzoic acid	4-Methylpiperazine		Scheme A
Compound 1074	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 1075	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A
Compound 1076	5-Chloro-2-nitro-benzoic acid	Morpholine		Scheme A

Structures of compounds 1 to 1077 are shown in Table 3.

Table 3

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 1		Compound 7	
Compound 2		Compound 8	
Compound 3		Compound 9	
Compound 4		Compound 10	
Compound 5		Compound 11	
Compound 6		Compound 12	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 13		Compound 19	
Compound 14		Compound 20	
Compound 15		Compound 21	
Compound 16		Compound 22	
Compound 17		Compound 23	
Compound 18		Compound 24	

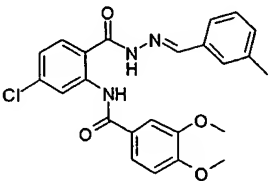
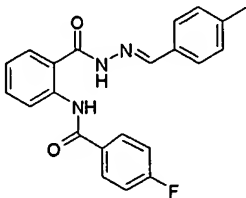
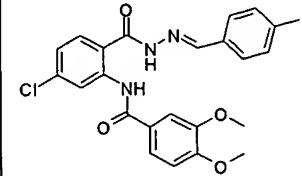
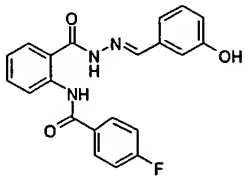
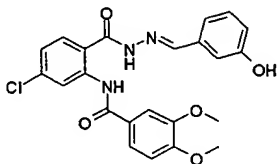
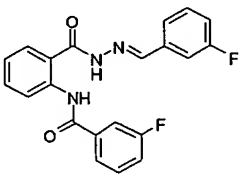
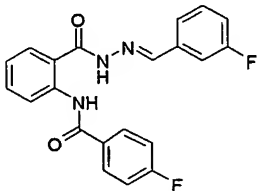
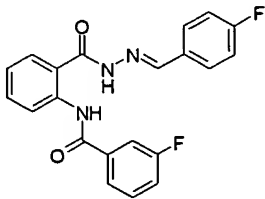
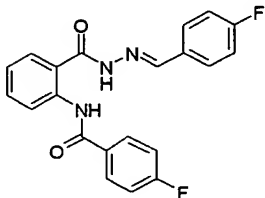
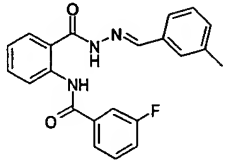
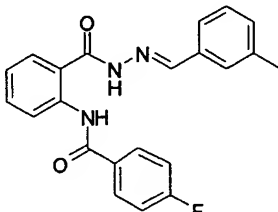
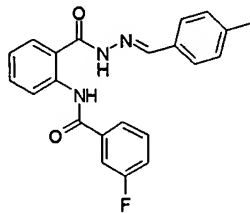
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Compound 27		Compound 33	
Compound 28		Compound 34	
Compound 29		Compound 35	
Compound 30		Compound 36	



Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 37		Compound 43	
Compound 38		Compound 44	
Compound 39		Compound 45	
Compound 40		Compound 46	
Compound 41		Compound 47	
Compound 42		Compound 48	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 49		Compound 55	
Compound 50		Compound 56	
Compound 51		Compound 57	
Compound 52		Compound 58	
Compound 53		Compound 59	
Compound 54		Compound 60	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 61		Compound 67	
Compound 62		Compound 68	
Compound 63		Compound 69	
Compound 64		Compound 70	
Compound 65		Compound 71	
Compound 66		Compound 72	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 73		Compound 79	
Compound 74		Compound 80	
Compound 75		Compound 81	
Compound 76		Compound 82	
Compound 77		Compound 83	
Compound 78		Compound 84	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 85		Compound 91	
Compound 86		Compound 92	
Compound 87		Compound 93	
Compound 88		Compound 94	
Compound 89		Compound 95	
Compound 90		Compound 96	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 97		Compound 103	
Compound 98		Compound 104	
Compound 99		Compound 105	
Compound 100		Compound 106	
Compound 101		Compound 107	
Compound 102		Compound 108	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 109		Compound 115	
Compound 110		Compound 116	
Compound 111		Compound 117	
Compound 112		Compound 118	
Compound 113		Compound 119	
Compound 114		Compound 120	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 121		Compound 127	
Compound 122		Compound 128	
Compound 123		Compound 129	
Compound 124		Compound 130	
Compound 125		Compound 131	
Compound 126		Compound 132	



Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 133		Compound 139	
Compound 134		Compound 140	
Compound 135		Compound 141	
Compound 136		Compound 142	
Compound 137		Compound 143	
Compound 138		Compound 144	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 145		Compound 151	
Compound 146		Compound 152	
Compound 147		Compound 153	
Compound 148		Compound 154	
Compound 149		Compound 155	
Compound 150		Compound 156	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 157		Compound 163	
Compound 158		Compound 164	
Compound 159		Compound 165	
Compound 160		Compound 166	
Compound 161		Compound 167	
Compound 162		Compound 168	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 169		Compound 175	
Compound 170		Compound 176	
Compound 171		Compound 177	
Compound 172		Compound 178	
Compound 173		Compound 179	
Compound 174		Compound 180	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 181		Compound 187	
Compound 182		Compound 188	
Compound 183		Compound 189	
Compound 184		Compound 190	
Compound 185		Compound 191	
Compound 186		Compound 192	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 193		Compound 199	
Compound 194		Compound 200	
Compound 195		Compound 201	
Compound 196		Compound 202	
Compound 197		Compound 203	
Compound 198		Compound 204	

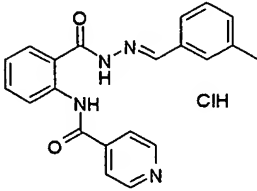
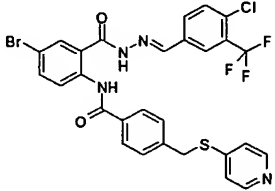
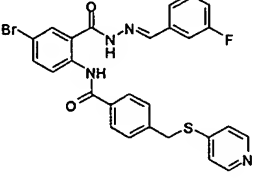
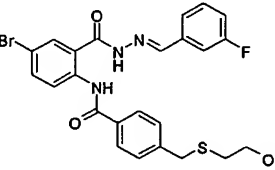
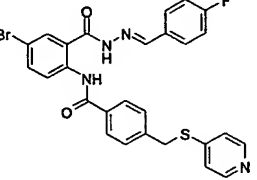
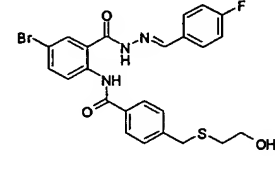
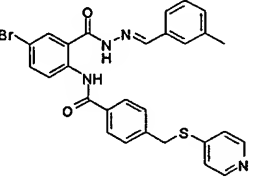
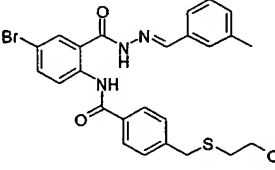
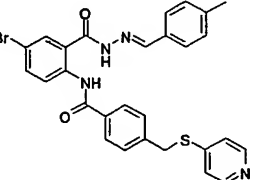
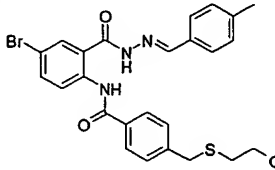
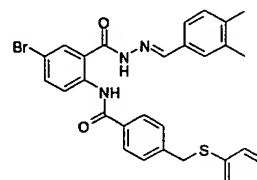
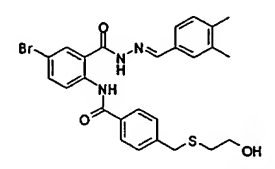
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Compound 206		Compound 212	
Compound 207		Compound 213	
Compound 208		Compound 214	
Compound 209		Compound 215	
Compound 210		Compound 216	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 217		Compound 223	
Compound 218		Compound 224	
Compound 219		Compound 225	
Compound 220		Compound 226	
Compound 221		Compound 227	
Compound 222		Compound 228	



Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 229		Compound 235	
Compound 230		Compound 236	
Compound 231		Compound 237	
Compound 232		Compound 238	
Compound 233		Compound 239	
Compound 234		Compound 240	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 241		Compound 247	
Compound 242		Compound 248	
Compound 243		Compound 249	
Compound 244		Compound 250	
Compound 245		Compound 251	
Compound 246		Compound 252	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 253	 ClH	Compound 260	
Compound 255		Compound 261	
Compound 256		Compound 262	
Compound 257		Compound 263	
Compound 258		Compound 264	
Compound 259		Compound 265	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 266		Compound 272	
Compound 267		Compound 273	
Compound 268		Compound 274	
Compound 269		Compound 275	
Compound 270		Compound 276	
Compound 271		Compound 277	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 278		Compound 284	
Compound 279		Compound 285	
Compound 280		Compound 286	
Compound 281		Compound 287	
Compound 282		Compound 288	
Compound 283		Compound 289	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 290		Compound 296	
Compound 291		Compound 297	
Compound 292		Compound 298	
Compound 293		Compound 299	
Compound 294		Compound 300	
Compound 295		Compound 301	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 302		Compound 308	
Compound 303		Compound 309	
Compound 304		Compound 310	
Compound 305		Compound 311	
Compound 306		Compound 312	
Compound 307		Compound 313	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 314		Compound 320	
Compound 315		Compound 321	
Compound 316		Compound 322	
Compound 317		Compound 323	
Compound 318		Compound 324	
Compound 319		Compound 325	



Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 326		Compound 332	
Compound 327		Compound 333	
Compound 328		Compound 334	
Compound 329		Compound 335	
Compound 330		Compound 336	
Compound 331		Compound 337	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 338		Compound 344	
Compound 339		Compound 345	
Compound 340		Compound 346	
Compound 341		Compound 347	
Compound 342		Compound 348	
Compound 343		Compound 349	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 350		Compound 356	
Compound 351		Compound 357	
Compound 352		Compound 358	
Compound 353		Compound 359	
Compound 354		Compound 360	
Compound 355		Compound 361	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 362		Compound 369	
Compound 363		Compound 370	
Compound 364		Compound 371	
Compound 366		Compound 372	
Compound 367		Compound 373	
Compound 368		Compound 374	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 375		Compound 381	
Compound 376		Compound 382	
Compound 377		Compound 383	
Compound 378		Compound 384	
Compound 379		Compound 385	
Compound 380		Compound 386	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 387		Compound 393	
Compound 388		Compound 394	
Compound 389		Compound 395	
Compound 390		Compound 396	
Compound 391		Compound 397	
Compound 392		Compound 398	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 399		Compound 405	
Compound 400		Compound 406	
Compound 401		Compound 407	
Compound 402		Compound 408	
Compound 403		Compound 409	
Compound 404		Compound 410	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 411		Compound 417	
Compound 412		Compound 418	
Compound 413		Compound 419	
Compound 414		Compound 420	
Compound 415		Compound 421	
Compound 416		Compound 422	



Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 423		Compound 429	
Compound 424		Compound 430	
Compound 425		Compound 431	
Compound 426		Compound 432	
Compound 427		Compound 433	
Compound 428		Compound 434	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 435		Compound 441	
Compound 436		Compound 442	
Compound 437		Compound 443	
Compound 438		Compound 444	
Compound 439		Compound 445	
Compound 440		Compound 446	

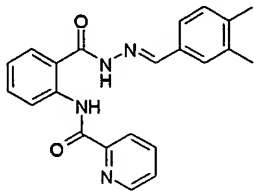
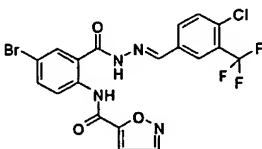
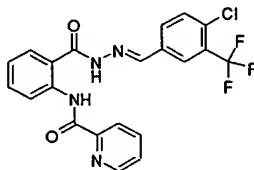
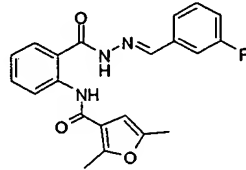
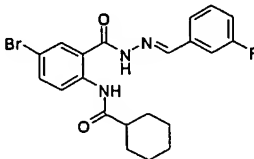
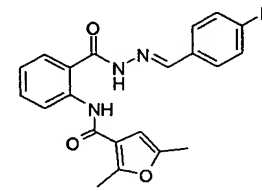
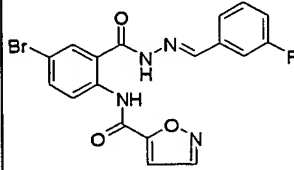
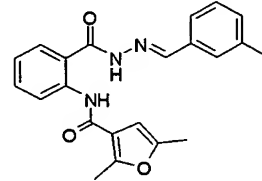
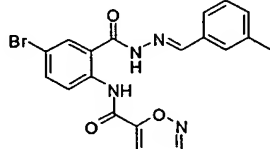
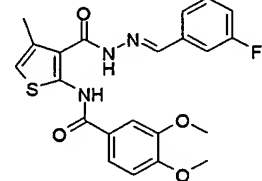
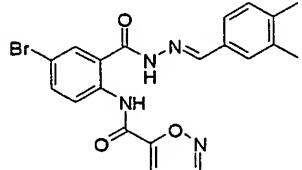
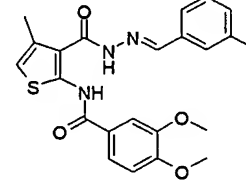
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 447		Compound 453	
Compound 448		Compound 454	
Compound 449		Compound 455	
Compound 450		Compound 456	
Compound 451		Compound 457	
Compound 452		Compound 458	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 459		Compound 465	
Compound 460		Compound 466	
Compound 461		Compound 467	
Compound 462		Compound 468	
Compound 463		Compound 469	
Compound 464		Compound 470	

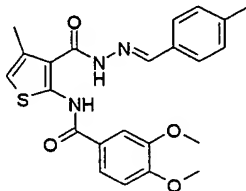
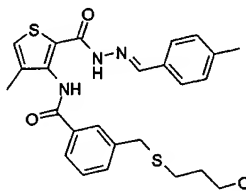
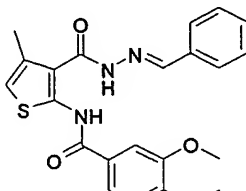
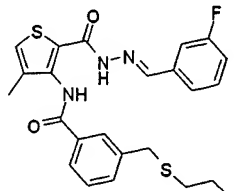
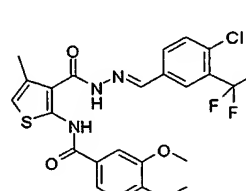
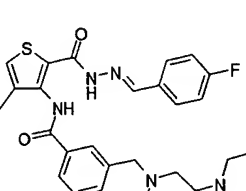
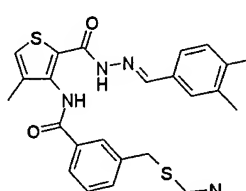
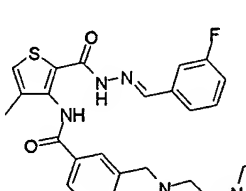
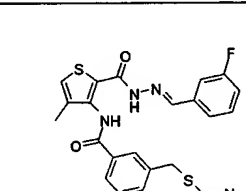
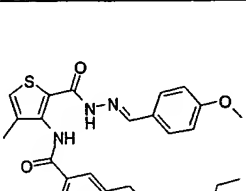
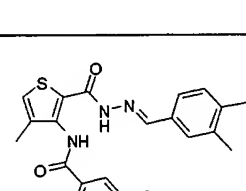
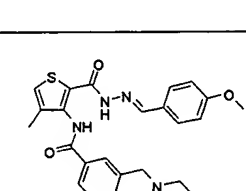
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Compound 472		Compound 478	
Compound 473		Compound 479	
Compound 474		Compound 480	
Compound 475		Compound 481	
Compound 476		Compound 482	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 483		Compound 489	
Compound 484		Compound 490	
Compound 485		Compound 491	
Compound 486		Compound 492	
Compound 487		Compound 493	
Compound 488		Compound 494	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 495		Compound 501	
Compound 496		Compound 502	
Compound 497		Compound 503	
Compound 498		Compound 504	
Compound 499		Compound 505	
Compound 500		Compound 506	

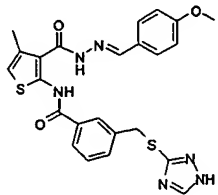
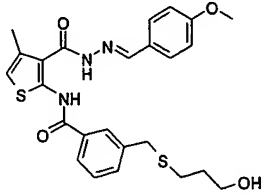
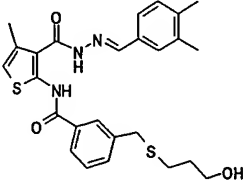
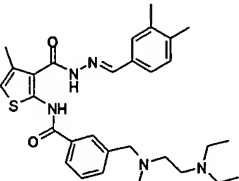
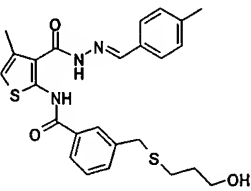
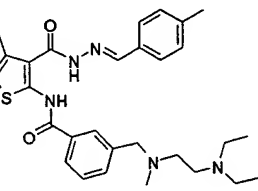
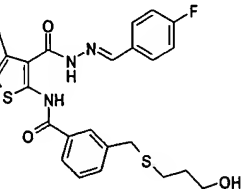
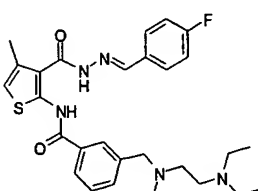
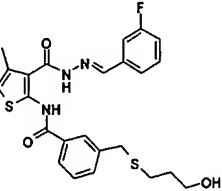
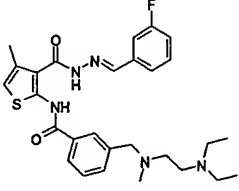
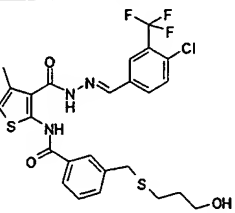
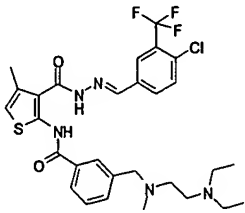
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 507		Compound 513	
Compound 508		Compound 514	
Compound 509		Compound 515	
Compound 510		Compound 516	
Compound 511		Compound 517	
Compound 512		Compound 518	

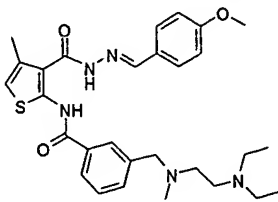
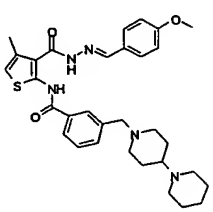
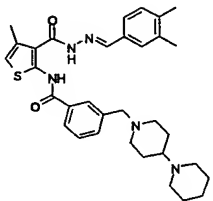
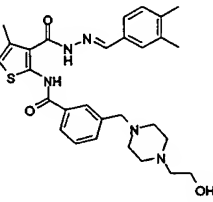
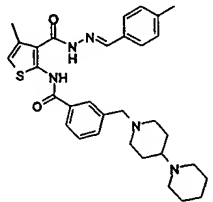
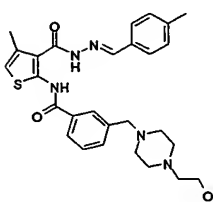
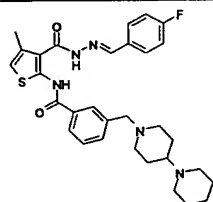
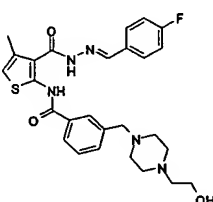
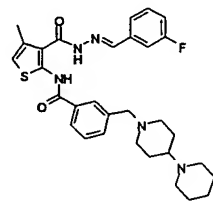
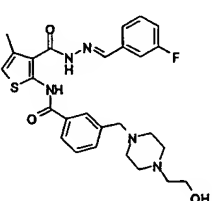
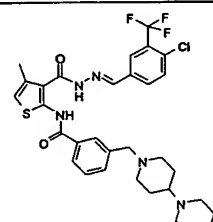
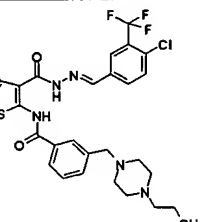


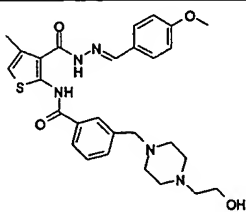
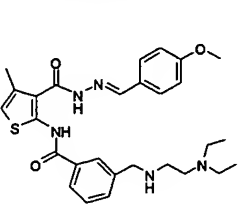
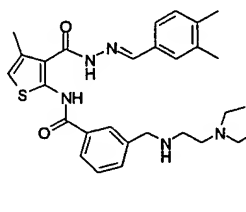
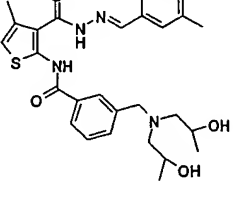
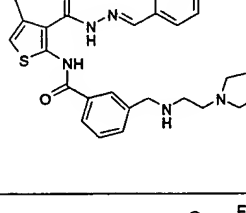
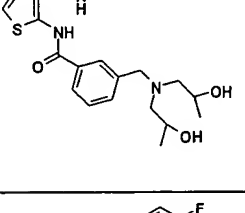
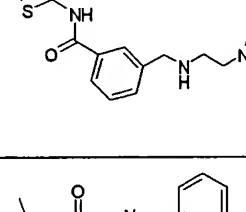
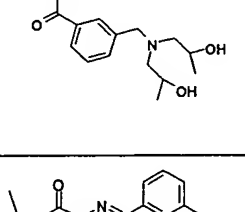
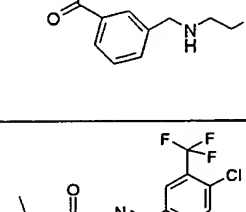
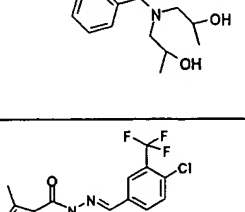
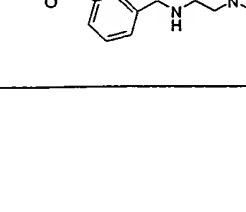
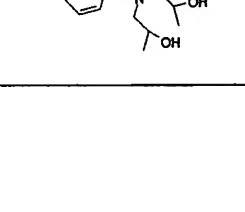
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 519		Compound 526	
Compound 521		Compound 527	
Compound 522		Compound 528	
Compound 523		Compound 529	
Compound 524		Compound 530	
Compound 525		Compound 531	

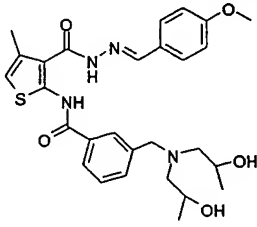
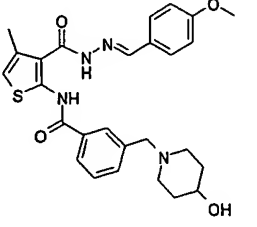
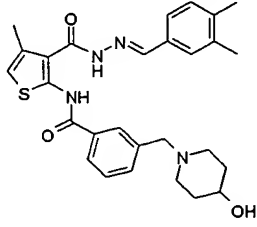
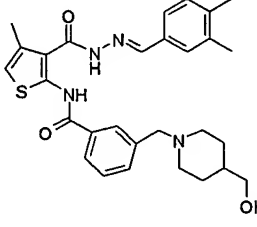
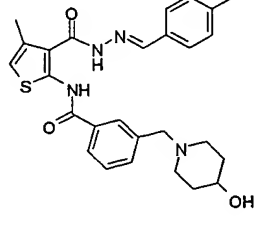
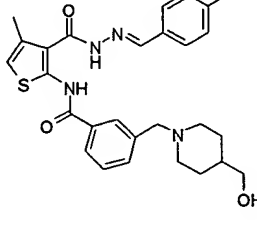
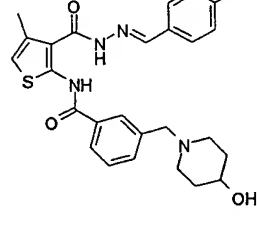
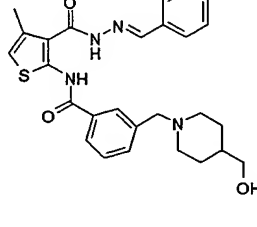
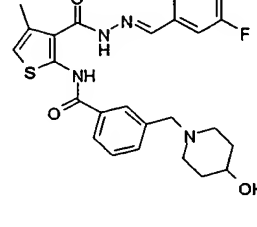
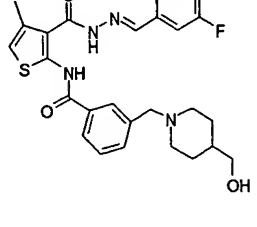
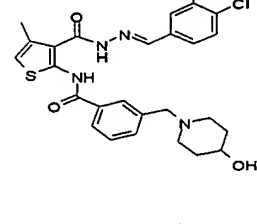
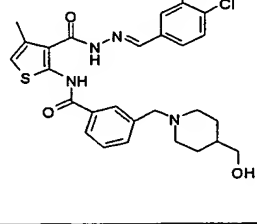
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 532		Compound 538	
Compound 533		Compound 539	
Compound 534		Compound 540	
Compound 535		Compound 541	
Compound 536		Compound 542	
Compound 537		Compound 543	

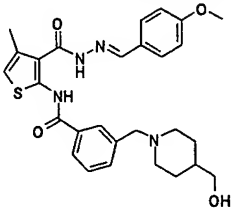
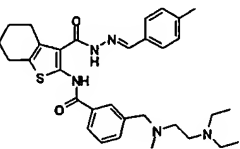
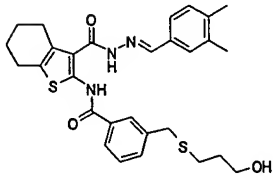
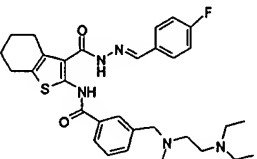
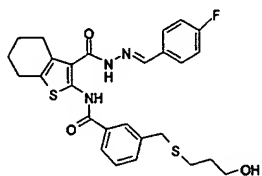
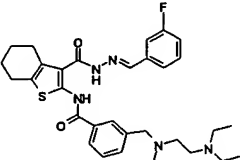
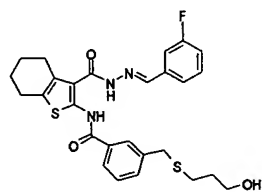
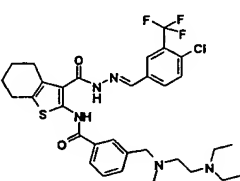
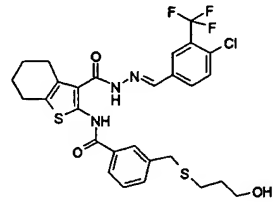
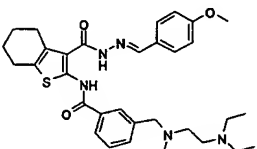
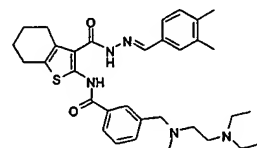
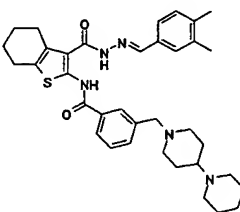
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 544		Compound 550	
Compound 545		Compound 551	
Compound 546		Compound 552	
Compound 547		Compound 553	
Compound 548		Compound 554	
Compound 549		Compound 555	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 556		Compound 562	
Compound 557		Compound 563	
Compound 558		Compound 564	
Compound 559		Compound 565	
Compound 560		Compound 566	
Compound 561		Compound 567	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 568		Compound 574	
Compound 569		Compound 575	
Compound 570		Compound 576	
Compound 571		Compound 577	
Compound 572		Compound 578	
Compound 573		Compound 579	

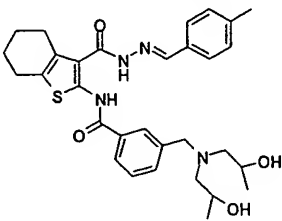
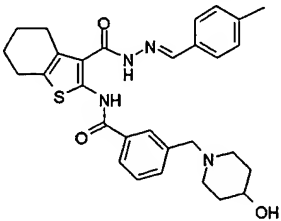
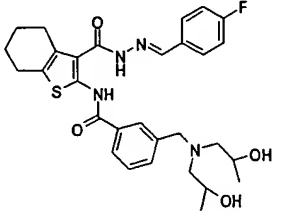
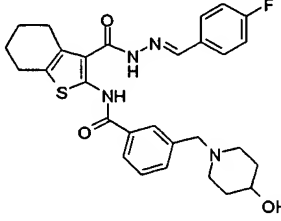
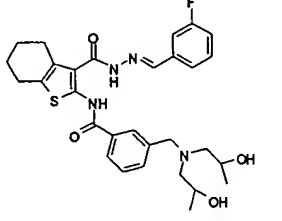
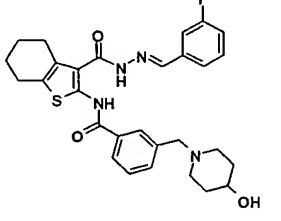
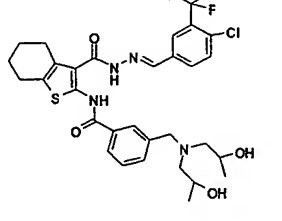
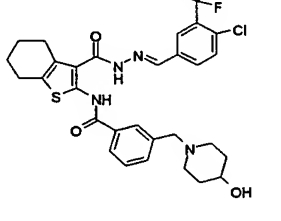
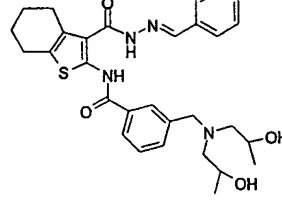
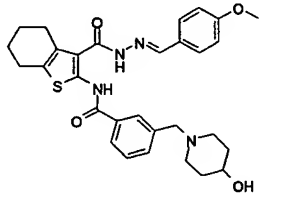
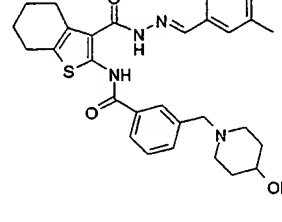
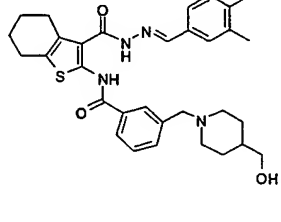
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 580		Compound 586	
Compound 581		Compound 587	
Compound 582		Compound 588	
Compound 583		Compound 589	
Compound 584		Compound 590	
Compound 585		Compound 591	

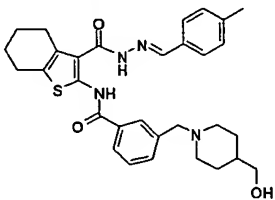
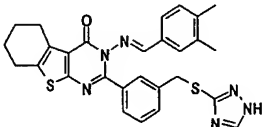
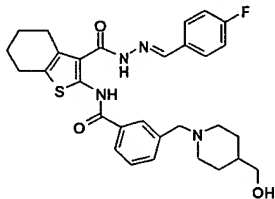
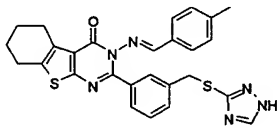
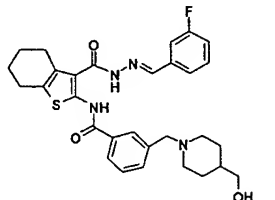
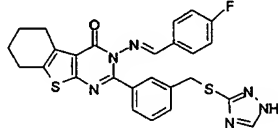
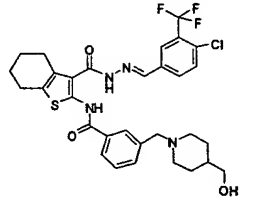
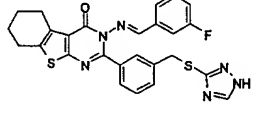
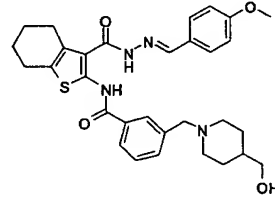
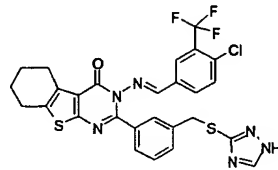
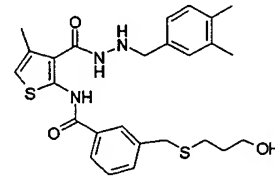
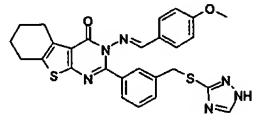
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 592		Compound 598	
Compound 593		Compound 599	
Compound 594		Compound 600	
Compound 595		Compound 601	
Compound 596		Compound 602	
Compound 597		Compound 603	

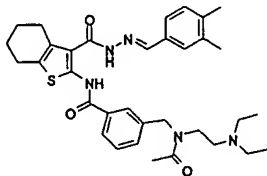
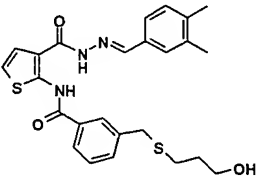
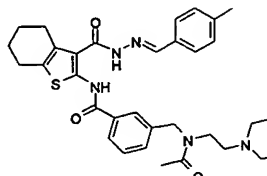
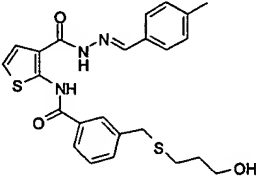
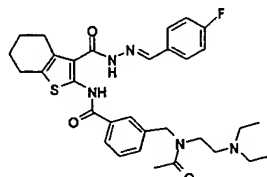
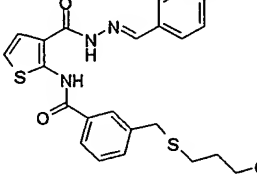
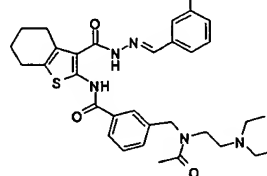
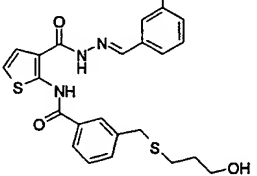
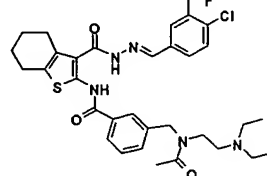
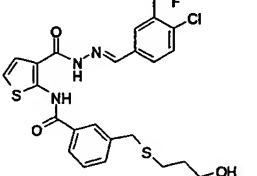
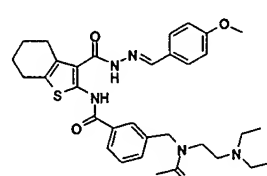
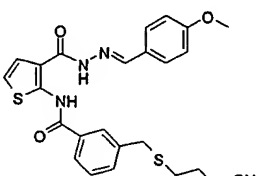
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 604		Compound 610	
Compound 605		Compound 611	
Compound 606		Compound 612	
Compound 607		Compound 613	
Compound 608		Compound 614	
Compound 609		Compound 615	

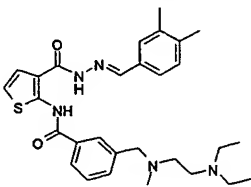
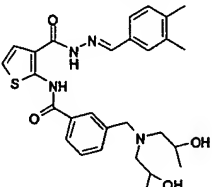
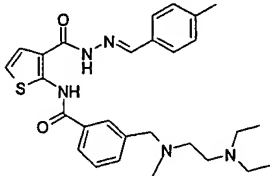
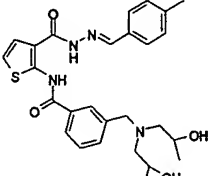
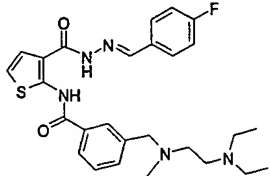
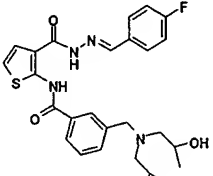
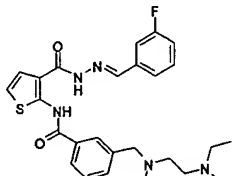
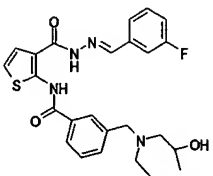
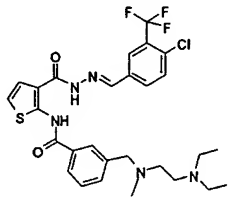
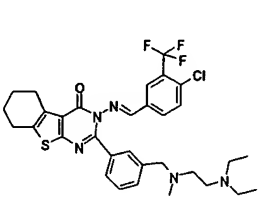
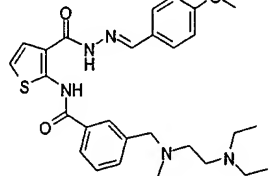
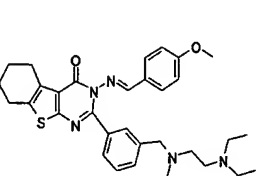




Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 628		Compound 634	
Compound 629		Compound 635	
Compound 630		Compound 636	
Compound 631		Compound 637	
Compound 632		Compound 638	
Compound 633		Compound 639	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 640		Compound 646	
Compound 641		Compound 647	
Compound 642		Compound 648	
Compound 643		Compound 649	
Compound 644		Compound 650	
Compound 645		Compound 651	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 652		Compound 658	
Compound 653		Compound 659	
Compound 654		Compound 660	
Compound 655		Compound 661	
Compound 656		Compound 662	
Compound 657		Compound 663	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 664		Compound 670	
Compound 665		Compound 671	
Compound 666		Compound 672	
Compound 667		Compound 673	
Compound 668		Compound 674	
Compound 669		Compound 675	

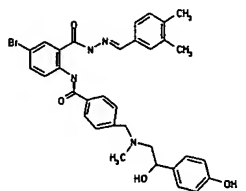
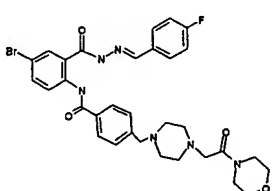
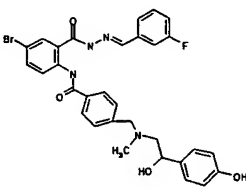
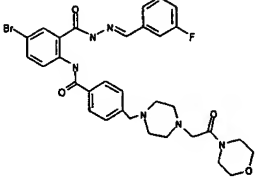
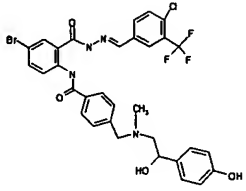
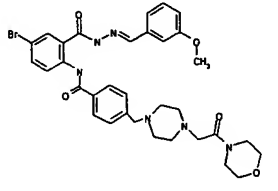
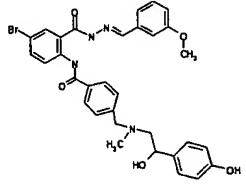
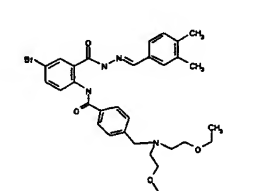
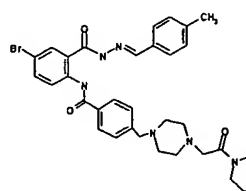
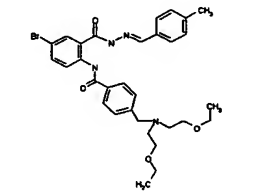
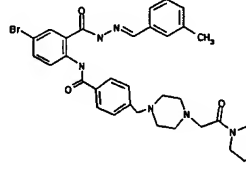
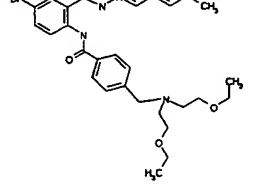
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 676		Compound 682	
Compound 677		Compound 683	
Compound 678		Compound 684	
Compound 679		Compound 685	
Compound 680		Compound 686	
Compound 681		Compound 687	

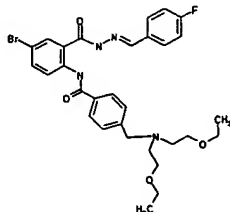
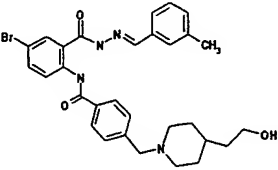
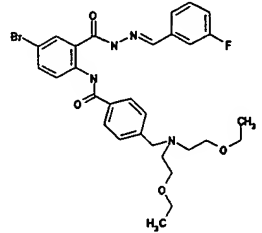
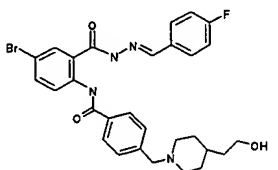
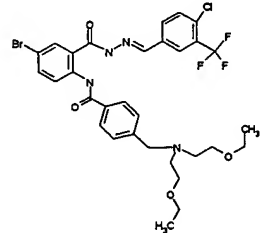
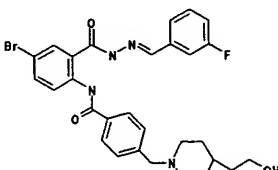
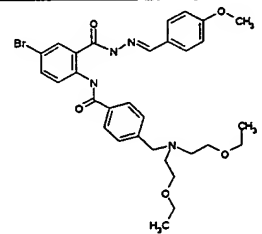
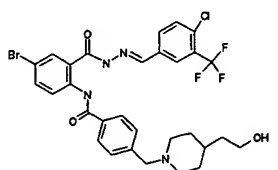
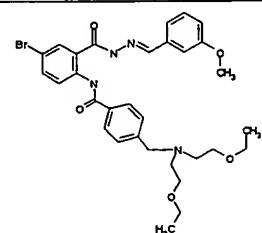
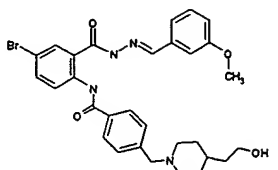
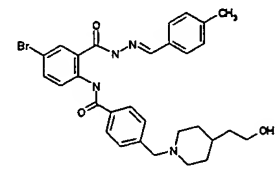
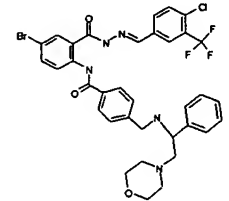


Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 700		Compound 706	
Compound 701		Compound 707	
Compound 702		Compound 708	
Compound 703		Compound 709	
Compound 704		Compound 710	
Compound 705		Compound 711	



Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 712		Compound 718	
Compound 713		Compound 719	
Compound 714		Compound 720	
Compound 715		Compound 721	
Compound 716		Compound 722	
Compound 717		Compound 723	

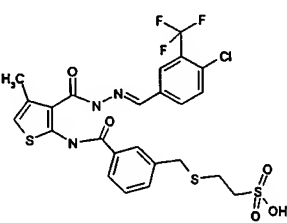
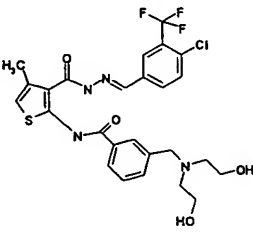
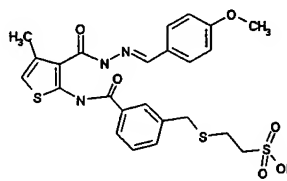
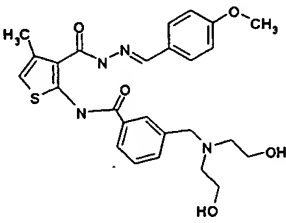
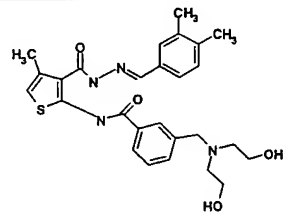
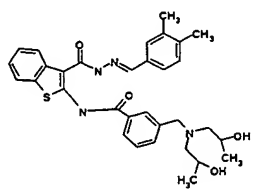
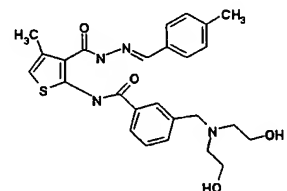
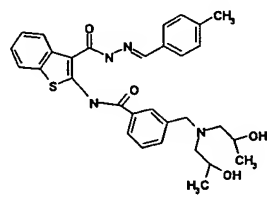
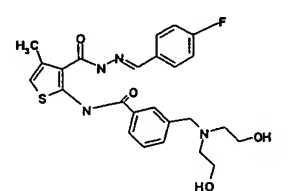
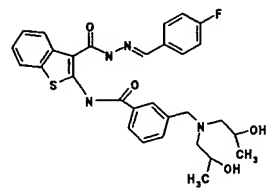
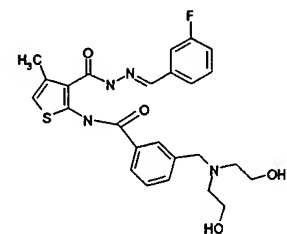
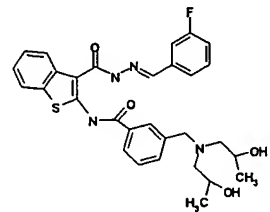
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 724		Compound 730	
Compound 725		Compound 731	
Compound 726		Compound 732	
Compound 727		Compound 733	
Compound 728		Compound 734	
Compound 729		Compound 735	

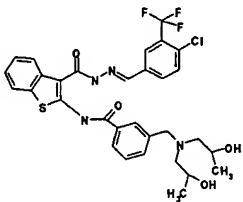
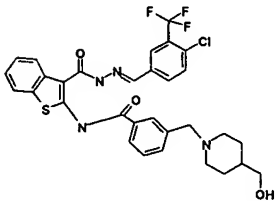
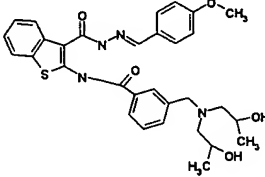
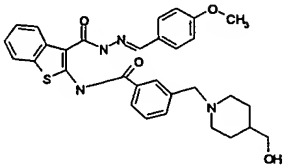
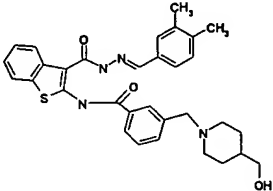
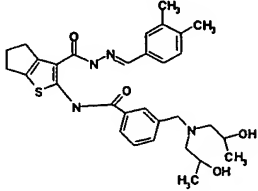
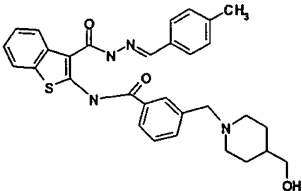
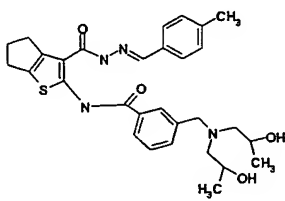
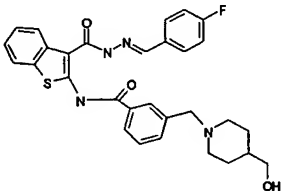
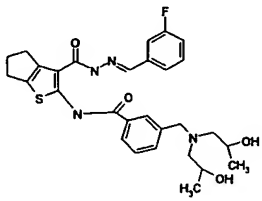
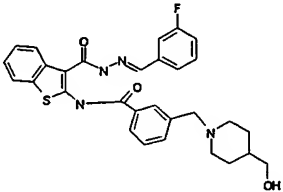
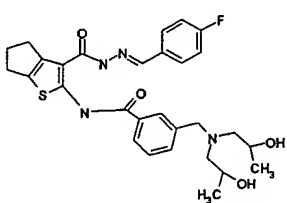
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 736		Compound 742	
Compound 737		Compound 743	
Compound 738		Compound 744	
Compound 739		Compound 745	
Compound 740		Compound 746	
Compound 741		Compound 747	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 748		Compound 754	
Compound 749		Compound 755	
Compound 750		Compound 756	
Compound 751		Compound 757	
Compound 752		Compound 758	
Compound 753		Compound 759	

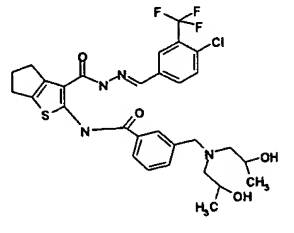
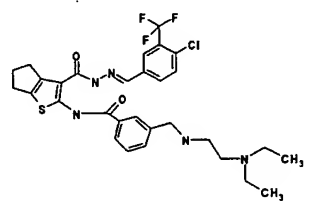
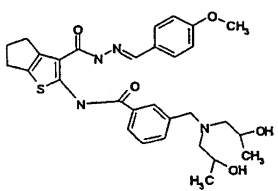
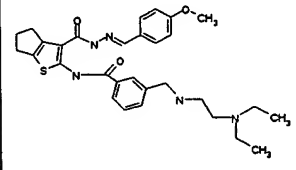
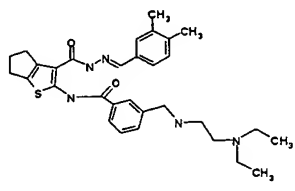
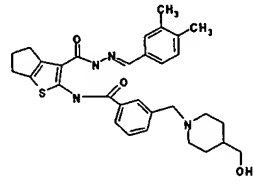
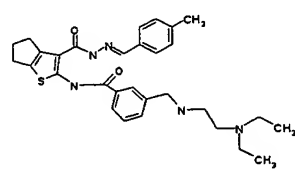
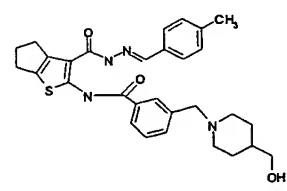
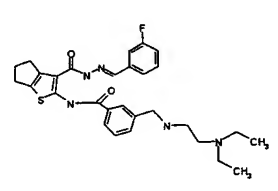
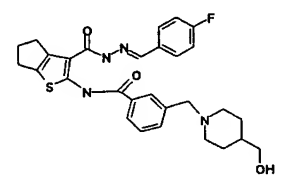
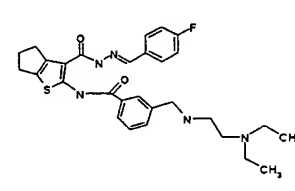
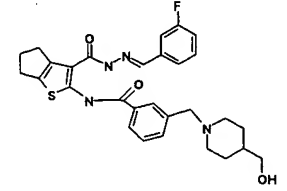
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 760		Compound 766	
Compound 761		Compound 767	
Compound 762		Compound 768	
Compound 763		Compound 769	
Compound 764		Compound 770	
Compound 765		Compound 771	

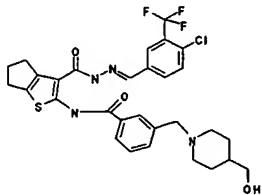
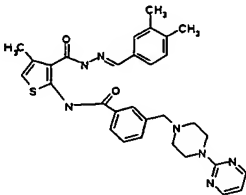
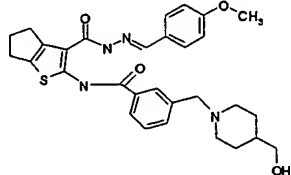
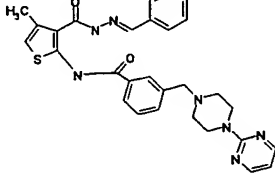
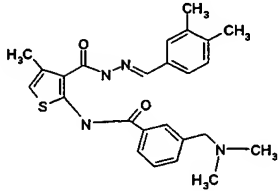
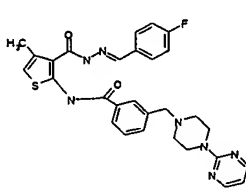
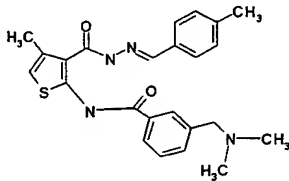
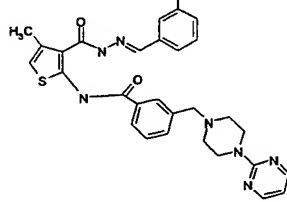
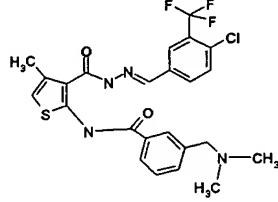
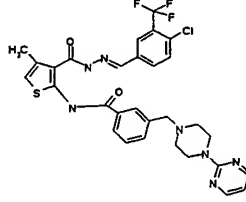
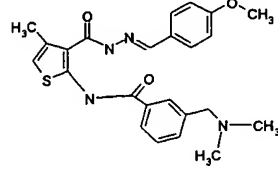
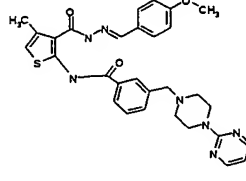
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 772		Compound 778	
Compound 773		Compound 779	
Compound 774		Compound 780	
Compound 775		Compound 781	
Compound 776		Compound 782	
Compound 777		Compound 783	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 784		Compound 790	
Compound 785		Compound 791	
Compound 786		Compound 792	
Compound 787		Compound 793	
Compound 788		Compound 794	
Compound 789		Compound 795	

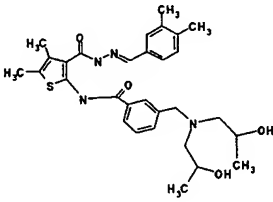
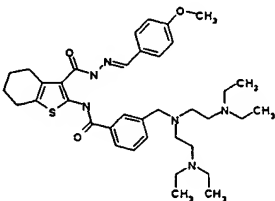
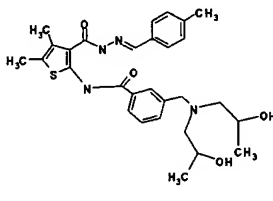
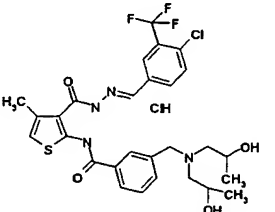
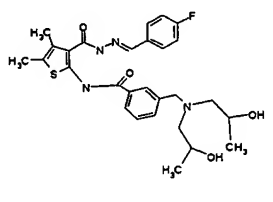
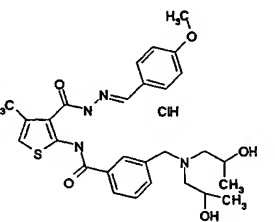
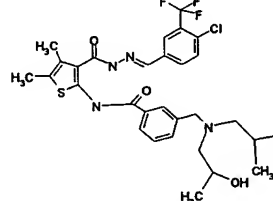
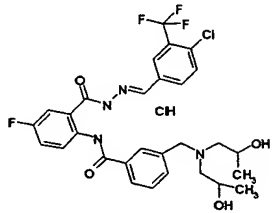
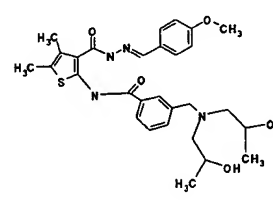
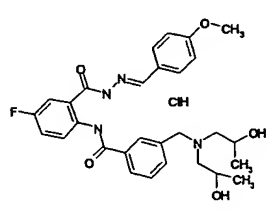
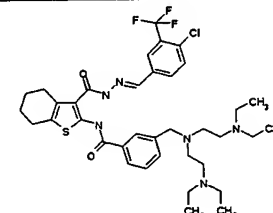
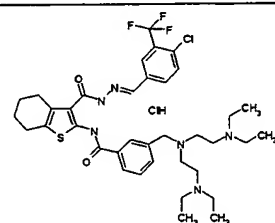
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 796		Compound 802	
Compound 797		Compound 803	
Compound 798		Compound 804	
Compound 799		Compound 805	
Compound 800		Compound 806	
Compound 801		Compound 807	

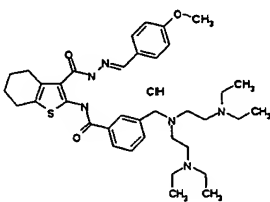
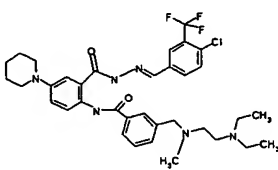
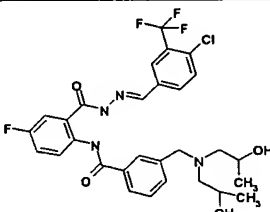
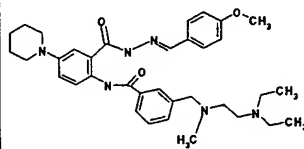
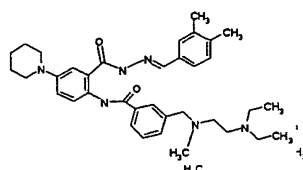
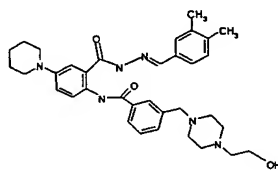
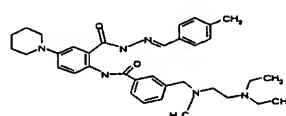
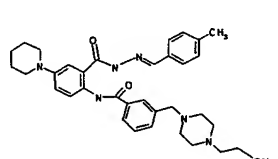
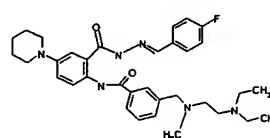
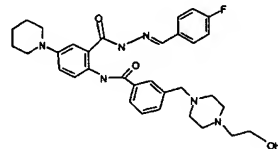
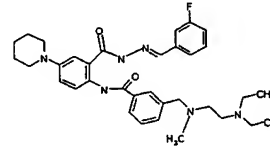
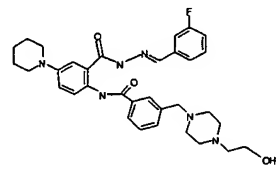


Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
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Compound 809		Compound 815	
Compound 810		Compound 816	
Compound 811		Compound 817	
Compound 812		Compound 818	
Compound 813		Compound 819	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 820		Compound 826	
Compound 821		Compound 827	
Compound 822		Compound 828	
Compound 823		Compound 829	
Compound 824		Compound 830	
Compound 825		Compound 831	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 832		Compound 838	
Compound 833		Compound 839	
Compound 834		Compound 840	
Compound 835		Compound 841	
Compound 836		Compound 842	
Compound 837		Compound 843	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 844		Compound 850	
Compound 845		Compound 851	
Compound 846		Compound 852	
Compound 847		Compound 853	
Compound 848		Compound 854	
Compound 849		Compound 855	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 856		Compound 862	
Compound 857		Compound 863	
Compound 858		Compound 864	
Compound 859		Compound 865	
Compound 860		Compound 866	
Compound 861		Compound 867	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 868		Compound 874	
Compound 869		Compound 875	
Compound 870		Compound 876	
Compound 871		Compound 877	
Compound 872		Compound 878	
Compound 873		Compound 879	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 880		Compound 886	
Compound 881		Compound 887	
Compound 882		Compound 888	
Compound 883		Compound 889	
Compound 884		Compound 890	
Compound 885		Compound 891	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 892		Compound 898	
Compound 893		Compound 899	
Compound 894		Compound 900	
Compound 895		Compound 901	
Compound 896		Compound 902	
Compound 897		Compound 903	



Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 904		Compound 910	
Compound 905		Compound 911	
Compound 906		Compound 912	
Compound 907		Compound 913	
Compound 908		Compound 914	
Compound 909		Compound 915	

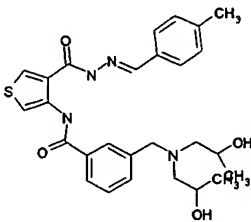
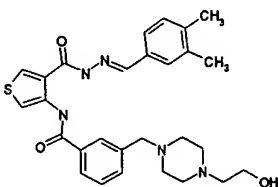
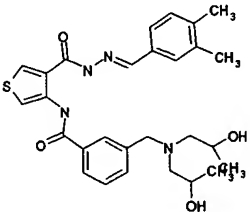
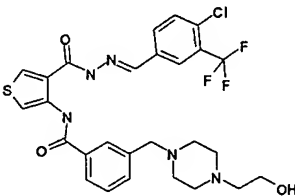
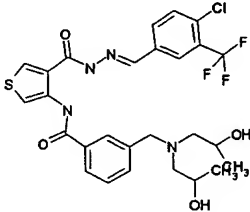
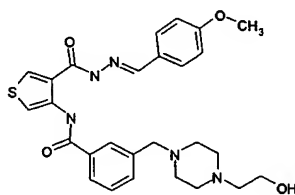
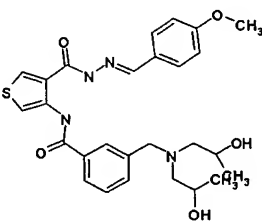
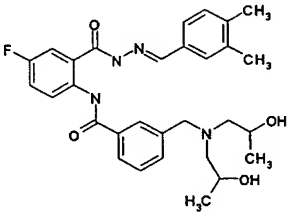
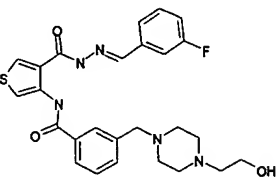
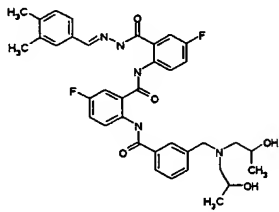
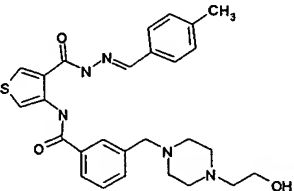
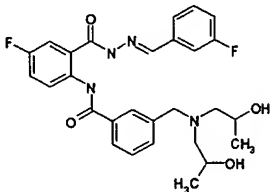
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 916		Compound 922	
Compound 917		Compound 923	
Compound 918		Compound 924	
Compound 919		Compound 925	
Compound 920		Compound 926	
Compound 921		Compound 927	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 928		Compound 934	
Compound 929		Compound 935	
Compound 930		Compound 936	
Compound 931		Compound 937	
Compound 932		Compound 938	
Compound 933		Compound 939	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 940		Compound 946	
Compound 941		Compound 947	
Compound 942		Compound 948	
Compound 943		Compound 949	
Compound 944		Compound 950	
Compound 945		Compound 951	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 952		Compound 958	
Compound 953		Compound 959	
Compound 954		Compound 960	
Compound 955		Compound 961	
Compound 956		Compound 962	
Compound 957		Compound 963	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 964		Compound 970	
Compound 965		Compound 971	
Compound 966		Compound 972	
Compound 967		Compound 973	
Compound 968		Compound 974	
Compound 969		Compound 975	

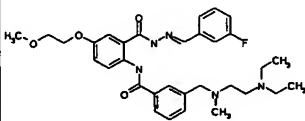
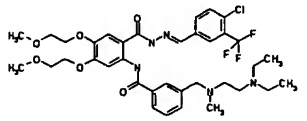
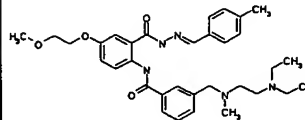
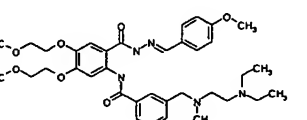
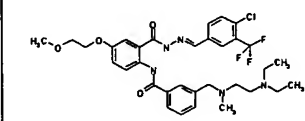
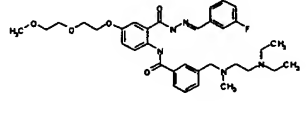
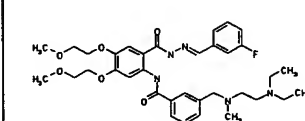
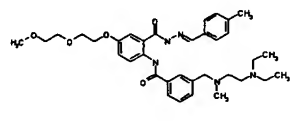
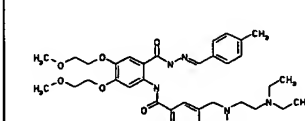
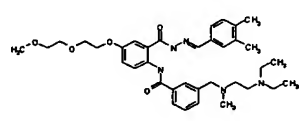
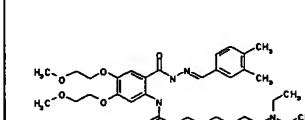
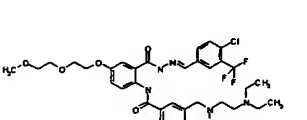
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 976		Compound 982	
Compound 977		Compound 983	
Compound 978		Compound 984	
Compound 979		Compound 985	
Compound 980		Compound 986	
Compound 981		Compound 987	

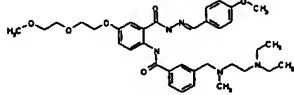
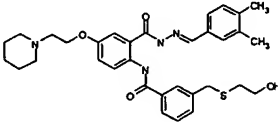
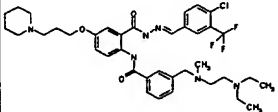
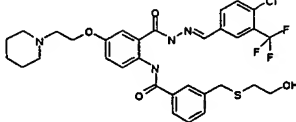
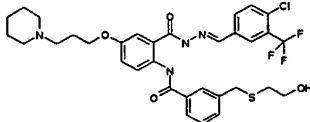
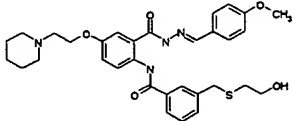
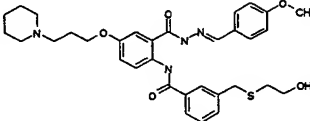
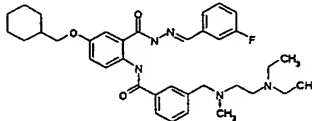
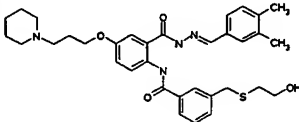
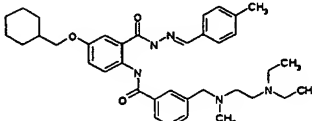
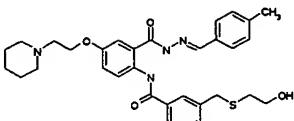
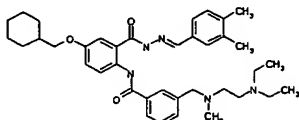
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 988		Compound 995	
Compound 989		Compound 996	
Compound 990		Compound 997	
Compound 991		Compound 998	
Compound 992		Compound 999	
Compound 993		Compound 1000	

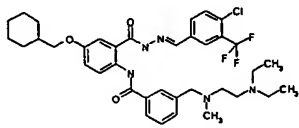
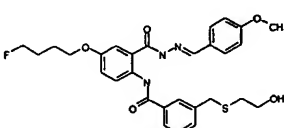
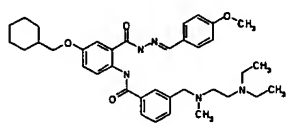
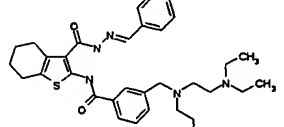
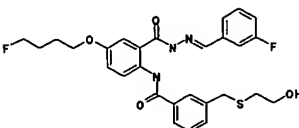
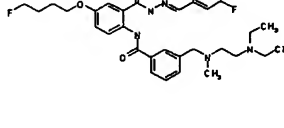
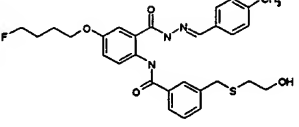
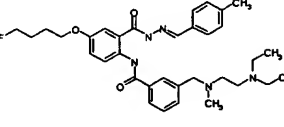
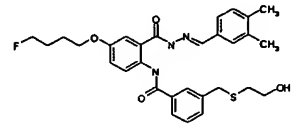
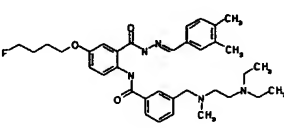
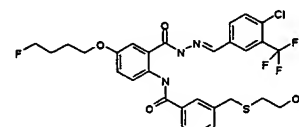
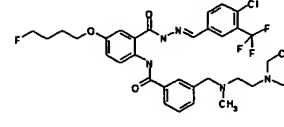


Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 1001		Compound 1007	
Compound 1002		Compound 1008	
Compound 1003		Compound 1009	
Compound 1004		Compound 1010	
Compound 1005		Compound 1011	
Compound 1006		Compound 1012	

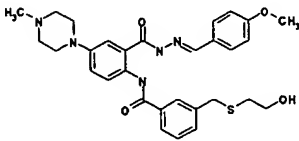
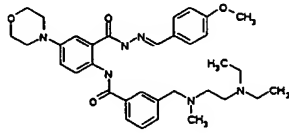
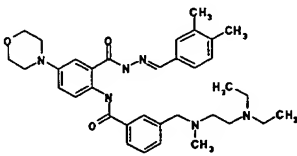
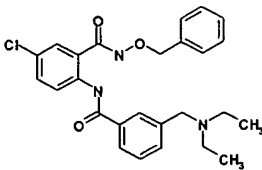
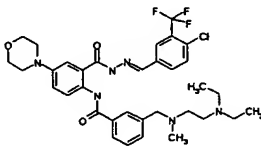
Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 1013		Compound 1019	
Compound 1014		Compound 1020	
Compound 1015		Compound 1021	
Compound 1016		Compound 1022	
Compound 1017		Compound 1023	
Compound 1018		Compound 1024	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 1025		Compound 1031	
Compound 1026		Compound 1032	
Compound 1027		Compound 1033	
Compound 1028		Compound 1034	
Compound 1029		Compound 1035	
Compound 1030		Compound 1036	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 1037		Compound 1043	
Compound 1038		Compound 1044	
Compound 1039		Compound 1045	
Compound 1040		Compound 1046	
Compound 1041		Compound 1047	
Compound 1042		Compound 1048	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 1049		Compound 1055	
Compound 1050		Compound 1056	
Compound 1051		Compound 1057	
Compound 1052		Compound 1058	
Compound 1053		Compound 1059	
Compound 1054		Compound 1060	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 1061		Compound 1067	
Compound 1062		Compound 1068	
Compound 1063		Compound 1069	
Compound 1064		Compound 1070	
Compound 1065		Compound 1071	
Compound 1066		Compound 1072	

Compound No.	Chemical structural formula	Compound No.	Chemical structural formula
Compound 1073		Compound 1076	
Compound 1074		Compound 1077	
Compound 1075			

Pharmacological Test Example 1: Experiment of sodium-dependent phosphate uptake of Xenopus oocytes which expressed NaPi-2b

Degenerate primers were prepared from sequences of mouse NaPi-2b disclosed in Hilfiker H. et al., Pro Natl Acad Sci USA, 95 (24): 14564-14569, 1988 and sequences of human and rat NaPi-2a disclosed in Magagnin S. et al., Proc Natl Aca Sci USA, 90 (13): 5979-5983, 1993. RNA was extracted from the rat small intestine using ISOGEN; manufactured by NIPPON GENE CO., LTD (Japan). 400 bp gene fragments were obtained by PCR using, as a template, a cDNA library prepared with a cDNA synthesis kit (manufactured by STRATAGENE (US)). Thereafter, the above rat small intestine cDNA library was screened using the gene fragment as a probe, and the whole gene sequence of rat NaPi-2b was cloned. cRNA was synthesized from the cloned rat NaPi-2b cDNA with a cRNA synthesis kit (manufactured by Ambion (US)). The synthesized cRNA was injected into Xenopus oocytes (obtained from COPACETIC (Japan)) with a liquid microinjector (manufactured by Drummond (US)) and was cultured for 2 days to express rat NaPi-2b. Thereafter, for a group of derivatives, phosphate uptake inhibitory activity were measured using the Xenopus oocytes with  $^{32}\text{P}$  radioactive phosphorus (manufactured by Daiichi Kagaku Inc. (Japan)). As a result, it was found that these compounds had inhibitory activity with  $\text{IC}_{50}$  values as shown in Table 4.  $\text{IC}_{50}$  values were determined by determining an inhibition curve by an approximation formula using the least square from inhibitory activity values obtained from five concentration levels of the compound and determining the concentration of the compound which exhibits 50% of the maximum inhibitory activity. The inhibitory activity for 300  $\mu\text{M}$  and 100  $\mu\text{M}$  was determined from the same inhibition curve and expressed in percentage inhibition (%) in Table 5.



Table 4

Compound No.	IC50 ( $\mu$ M)	Compound No.	IC50 ( $\mu$ M)	Compound No.	IC50 ( $\mu$ M)
Compound 1	9.11	Compound 36	4.04	Compound 70	9.51
Compound 3	7.15	Compound 37	13.47	Compound 71	12.33
Compound 4	79.93	Compound 38	5.64	Compound 72	10.41
Compound 5	3.31	Compound 39	9.24	Compound 73	1.75
Compound 6	5.38	Compound 40	2.03	Compound 74	2.15
Compound 7	7.15	Compound 41	2.43	Compound 75	12.77
Compound 8	1.72	Compound 42	8.21	Compound 76	13.17
Compound 9	4.26	Compound 43	20.66	Compound 77	3.01
Compound 10	26.12	Compound 44	4.71	Compound 78	7.17
Compound 11	8.21	Compound 45	26.14	Compound 79	2.87
Compound 12	4.51	Compound 46	7.41	Compound 80	10.87
Compound 13	9.22	Compound 47	4.38	Compound 81	5.65
Compound 14	12.10	Compound 48	2.07	Compound 82	6.03
Compound 15	1.41	Compound 49	3.37	Compound 83	2.98
Compound 16	2.30	Compound 50	19.48	Compound 84	8.42
Compound 17	3.59	Compound 51	4.60	Compound 85	2.00
Compound 18	4.03	Compound 52	10.39	Compound 86	11.4
Compound 19	8.16	Compound 53	4.05	Compound 87	0.29
Compound 20	2.83	Compound 54	6.45	Compound 88	0.22
Compound 21	21.53	Compound 55	0.86	Compound 89	1.11
Compound 22	26.67	Compound 56	0.89	Compound 90	3.42
Compound 23	9.88	Compound 57	1.02	Compound 91	0.22
Compound 24	20.92	Compound 58	7.67	Compound 92	0.26
Compound 25	23.91	Compound 59	1.22	Compound 93	10.98
Compound 26	25.37	Compound 60	1.58	Compound 94	5.63
Compound 27	3.63	Compound 61	0.31	Compound 95	1.27
Compound 28	5.12	Compound 62	0.90	Compound 96	5.94
Compound 29	0.55	Compound 63	5.97	Compound 97	0.51
Compound 30	7.86	Compound 64	3.77	Compound 98	0.62
Compound 31	0.58	Compound 65	1.29	Compound 99	3.03
Compound 32	1.95	Compound 66	0.89	Compound 100	0.64
Compound 33	15.02	Compound 67	0.65	Compound 101	0.75
Compound 34	1.50	Compound 68	0.36	Compound 102	5.58
Compound 35	3.23	Compound 69	3.93	Compound 103	5.73

Compound No.	IC50 ( $\mu$ M)
Compound 104	11.34
Compound 105	7.29
Compound 106	5.11
Compound 107	1.08
Compound 108	3.83
Compound 109	6.18
Compound 110	7.70
Compound 111	9.12
Compound 112	41.98
Compound 113	17.91
Compound 114	2.55
Compound 115	5.48
Compound 116	7.01
Compound 117	0.58
Compound 118	6.07
Compound 119	0.74
Compound 120	2.55
Compound 121	4.06
Compound 122	<3.00
Compound 123	3.77
Compound 124	3.15
Compound 125	136.43
Compound 126	6.43
Compound 127	11.59
Compound 128	11.61
Compound 129	13.70
Compound 130	11.42
Compound 132	0.75
Compound 133	0.88
Compound 134	7.82
Compound 135	3.74
Compound 136	4.52
Compound 137	3.00
Compound 138	4.47
Compound 139	55.50

Compound No.	IC50 ( $\mu$ M)
Compound 140	74.24
Compound 141	5.78
Compound 142	9.20
Compound 143	5.88
Compound 144	5.02
Compound 145	3.82
Compound 146	1.99
Compound 147	7.68
Compound 148	15.63
Compound 149	5.51
Compound 150	1.09
Compound 151	3.07
Compound 152	1.48
Compound 153	3.50
Compound 154	2.37
Compound 155	0.32
Compound 156	0.46
Compound 157	7.19
Compound 158	3.28
Compound 159	4.35
Compound 160	0.93
Compound 161	0.96
Compound 162	3.11
Compound 163	1.60
Compound 164	4.76
Compound 165	2.43
Compound 166	27.85
Compound 167	30.20
Compound 168	4.84
Compound 169	4.24
Compound 170	5.34
Compound 171	5.12
Compound 172	2.74
Compound 173	7.40
Compound 174	12.54

Compound No.	IC50 ( $\mu$ M)
Compound 175	3.57
Compound 176	4.10
Compound 177	26.01
Compound 178	7.54
Compound 179	18.69
Compound 180	<3.00
Compound 181	3.16
Compound 182	10.24
Compound 183	<3.00
Compound 184	4.01
Compound 185	2.02
Compound 186	10.1
Compound 187	7.87
Compound 188	19.43
Compound 189	1.47
Compound 190	20.32
Compound 191	12.12
Compound 192	23.09
Compound 193	4.21
Compound 194	7.36
Compound 195	0.98
Compound 196	0.61
Compound 197	4.87
Compound 198	2.71
Compound 199	1.82
Compound 200	0.39
Compound 201	11.10
Compound 202	3.14
Compound 203	<3.00
Compound 204	<3.00
Compound 205	<3.00
Compound 206	<3.00
Compound 207	<1.00
Compound 208	<0.30
Compound 209	<1.00

Compound No.	IC50 ( $\mu$ M)
Compound 210	34.96
Compound 211	69.07
Compound 212	71.27
Compound 213	16.64
Compound 214	3.95
Compound 215	<3.00
Compound 216	21.82
Compound 217	11.21
Compound 218	4.05
Compound 219	9.07
Compound 220	9.42
Compound 221	9.51
Compound 222	8.86
Compound 223	11.30
Compound 224	19.99
Compound 225	60.98
Compound 226	1.69
Compound 227	7.40
Compound 228	22.48
Compound 229	6.32
Compound 252	1.49
Compound 253	3.47
Compound 255	3.54
Compound 256	<10.00
Compound 257	<3.00
Compound 258	<3.00
Compound 259	<3.00
Compound 260	<3.00
Compound 261	<3.00
Compound 262	1.10
Compound 263	<1.00
Compound 264	<1.00
Compound 265	<1.00
Compound 266	<1.00
Compound 267	0.43

Compound No.	IC50 ( $\mu$ M)
Compound 268	1.02
Compound 269	2.19
Compound 270	5.04
Compound 271	0.21
Compound 272	0.47
Compound 273	0.15
Compound 274	1.04
Compound 275	1.73
Compound 276	6.20
Compound 277	1.60
Compound 278	0.16
Compound 279	2.31
Compound 280	0.78
Compound 281	4.60
Compound 282	6.71
Compound 283	22.44
Compound 284	26.94
Compound 285	0.90
Compound 286	0.57
Compound 287	0.11
Compound 288	1.31
Compound 289	2.89
Compound 290	3.25
Compound 291	1.16
Compound 292	3.50
Compound 293	5.59
Compound 294	7.80
Compound 295	7.58
Compound 296	1.45
Compound 297	0.96
Compound 298	9.22
Compound 299	3.91
Compound 300	1.92
Compound 301	15.17
Compound 302	1.12

Compound No.	IC50 ( $\mu$ M)
Compound 303	1.13
Compound 304	1.23
Compound 305	2.47
Compound 306	2.13
Compound 307	41.17
Compound 308	2.76
Compound 309	15.12
Compound 310	7.82
Compound 311	7.78
Compound 312	3.31
Compound 313	1.24
Compound 314	3.39
Compound 315	9.02
Compound 316	4.71
Compound 317	5.02
Compound 318	2.49
Compound 319	9.76
Compound 320	4.09
Compound 321	2.66
Compound 322	5.93
Compound 323	4.69
Compound 324	4.43
Compound 325	2.56
Compound 326	2.10
Compound 327	5.12
Compound 328	1.15
Compound 329	5.63
Compound 330	10.69
Compound 331	15.76
Compound 332	2.87
Compound 333	17.18
Compound 334	7.69
Compound 335	5.86
Compound 336	16.63
Compound 337	1.39

Compound No.	IC50 ( $\mu$ M)
Compound 338	18.97
Compound 339	12.77
Compound 340	8.41
Compound 341	<3.00
Compound 342	32.60
Compound 343	124.10
Compound 344	30.99
Compound 345	129.95
Compound 346	4.46
Compound 347	4.91
Compound 348	16.59
Compound 349	8.78
Compound 350	25.32
Compound 351	8.96
Compound 352	13.00
Compound 353	8.85
Compound 354	1.54
Compound 356	0.17
Compound 358	54.07
Compound 359	7.10
Compound 360	0.63
Compound 361	<1.00
Compound 362	<1.00
Compound 363	<1.00
Compound 364	<1.00
Compound 367	6.88
Compound 368	1.37
Compound 369	1.45
Compound 370	1.86
Compound 371	2.54
Compound 372	0.80
Compound 373	1.68
Compound 374	9.25
Compound 375	24.71
Compound 376	21.00

Compound No.	IC50 ( $\mu$ M)
Compound 377	9.65
Compound 378	4.35
Compound 379	0.97
Compound 380	0.35
Compound 381	1.00
Compound 382	1.04
Compound 383	1.98
Compound 384	0.25
Compound 385	0.31
Compound 386	<3.00
Compound 387	6.45
Compound 388	19.67
Compound 389	1.09
Compound 390	0.45
Compound 391	1.02
Compound 392	1.42
Compound 393	0.52
Compound 394	0.95
Compound 395	8.55
Compound 396	8.19
Compound 397	9.25
Compound 398	<0.30
Compound 399	3.67
Compound 400	<0.30
Compound 401	6.13
Compound 402	14.12
Compound 403	26.73
Compound 404	2.18
Compound 405	1.90
Compound 406	0.88
Compound 407	0.57
Compound 408	0.69
Compound 409	2.52
Compound 410	4.05
Compound 411	10.08

Compound No.	IC50 ( $\mu$ M)
Compound 412	7.96
Compound 413	<3.00
Compound 414	<3.00
Compound 415	<3.00
Compound 416	3.25
Compound 417	<3.00
Compound 418	9.38
Compound 419	9.20
Compound 420	27.14
Compound 421	29.56
Compound 422	1.15
Compound 423	<3.00
Compound 424	1.79
Compound 425	<3.00
Compound 426	1.89
Compound 427	<3.00
Compound 428	1.82
Compound 429	5.88
Compound 430	4.53
Compound 431	5.57
Compound 432	22.22
Compound 433	14.34
Compound 434	7.78
Compound 435	7.65
Compound 436	8.36
Compound 437	<3.00
Compound 438	26.27
Compound 439	28.74
Compound 440	32.35
Compound 441	40.14
Compound 442	3.15
Compound 443	11.05
Compound 444	<3.00
Compound 445	10.33
Compound 446	1.54

Compound No.	IC50 ( $\mu$ M)
Compound 447	2.16
Compound 448	9.41
Compound 449	21.73
Compound 450	16.94
Compound 451	37.84
Compound 452	<3.00
Compound 453	<3.00
Compound 454	<3.00
Compound 455	<3.00
Compound 456	<3.00
Compound 457	<3.00
Compound 458	<3.00
Compound 459	<3.00
Compound 460	<3.00
Compound 461	3.59
Compound 462	<3.00
Compound 463	4.44
Compound 464	5.00
Compound 465	7.43
Compound 466	<3.00
Compound 467	7.94
Compound 468	22.45
Compound 469	33.16
Compound 470	23.54
Compound 472	<3.00
Compound 473	<3.00
Compound 474	<3.00
Compound 475	<3.00
Compound 476	<3.00
Compound 477	<3.00
Compound 478	<3.00
Compound 479	<3.00
Compound 480	<3.00
Compound 481	12.10
Compound 482	<3.00

Compound No.	IC50 ( $\mu$ M)
Compound 483	<3.00
Compound 484	<3.00
Compound 485	<3.00
Compound 486	<3.00
Compound 487	<3.00
Compound 488	<3.00
Compound 489	<3.00
Compound 490	<3.00
Compound 491	<3.00
Compound 492	<3.00
Compound 493	<3.00
Compound 494	2.07
Compound 495	0.35
Compound 496	0.64
Compound 497	0.51
Compound 498	0.60
Compound 499	0.98
Compound 500	0.35
Compound 501	23.13
Compound 502	15.68
Compound 503	10.35
Compound 504	18.93
Compound 505	1.21
Compound 506	19.5
Compound 507	1.86
Compound 508	0.48
Compound 509	13.59
Compound 510	1.48
Compound 511	2.16
Compound 512	28.30
Compound 513	15.96
Compound 514	2.15
Compound 515	1.90
Compound 516	2.13
Compound 517	1.71

Compound No.	IC50 ( $\mu$ M)
Compound 518	1.52
Compound 519	1.72
Compound 521	1.24
Compound 522	1.09
Compound 551	0.47
Compound 552	2.63
Compound 553	2.80
Compound 554	1.46
Compound 555	<3.00
Compound 556	<3.00
Compound 557	<0.30
Compound 558	1.07
Compound 559	1.26
Compound 560	1.09
Compound 561	0.31
Compound 562	<1.00
Compound 563	<1.00
Compound 564	11.57
Compound 565	12.98
Compound 566	14.58
Compound 567	<1.00
Compound 568	4.32
Compound 569	<3.00
Compound 570	6.04
Compound 571	5.27
Compound 572	4.12
Compound 573	1.75
Compound 574	6.93
Compound 575	<3.00
Compound 576	<3.00
Compound 577	<3.00
Compound 578	<3.00
Compound 579	<3.00
Compound 580	<3.00
Compound 581	<3.00

Compound No.	IC50 ( $\mu$ M)
Compound 582	<3.00
Compound 583	<3.00
Compound 584	<3.00
Compound 585	<3.00
Compound 586	<3.00
Compound 587	<3.00
Compound 588	9.33
Compound 589	<3.00
Compound 590	6.18
Compound 591	1.01
Compound 592	11.94
Compound 593	<3.00
Compound 594	3.60
Compound 595	3.87
Compound 596	5.47
Compound 597	1.47
Compound 598	53.04
Compound 599	<3.00
Compound 600	3.84
Compound 601	<3.00
Compound 602	3.98
Compound 603	<3.00
Compound 604	9.23
Compound 605	0.95
Compound 606	1.01
Compound 607	0.43
Compound 608	<0.30
Compound 609	<0.30
Compound 610	1.82
Compound 611	2.16
Compound 612	2.34
Compound 613	1.41
Compound 614	3.29
Compound 615	2.08
Compound 616	13.86

Compound No.	IC50 ( $\mu$ M)
Compound 617	3.68
Compound 618	4.25
Compound 619	<3.00
Compound 620	3.58
Compound 621	<3.00
Compound 622	<3.00
Compound 623	<3.00
Compound 624	<3.00
Compound 625	<3.00
Compound 626	<3.00
Compound 627	<1.00
Compound 628	1.29
Compound 629	3.01
Compound 630	<1.00
Compound 631	<1.00
Compound 632	<1.00
Compound 633	1.19
Compound 634	1.74
Compound 635	1.56
Compound 636	3.89
Compound 637	<1.00
Compound 638	3.15
Compound 639	1.84
Compound 640	1.61
Compound 641	2.92
Compound 642	2.14
Compound 643	3.68
Compound 644	5.91
Compound 645	<3.00
Compound 646	1.77
Compound 647	5.62
Compound 648	2.04
Compound 649	2.69
Compound 650	0.95
Compound 651	262.90

Compound No.	IC50 ( $\mu$ M)
Compound 652	0.72
Compound 653	1.10
Compound 654	2.03
Compound 655	1.58
Compound 656	2.98
Compound 657	2.63
Compound 658	<3.00
Compound 659	12.45
Compound 660	18.70
Compound 661	<10.00
Compound 662	3.20
Compound 663	136.67
Compound 664	15.08
Compound 666	31.23
Compound 667	30.49
Compound 668	9.13
Compound 669	15.29
Compound 671	<3.00
Compound 672	31.18
Compound 673	10.13
Compound 675	<3.00
Compound 676	<3.00
Compound 677	<3.00
Compound 678	<3.00
Compound 679	<3.00
Compound 680	4.04
Compound 681	25.90
Compound 682	12.50
Compound 683	<3.00
Compound 684	54.25
Compound 685	36.43
Compound 686	<3.00
Compound 687	<3.00
Compound 688	<3.00
Compound 689	<3.00

Compound No.	IC50 ( $\mu$ M)
Compound 690	87.97
Compound 691	97.03
Compound 692	99.40
Compound 693	70.18
Compound 694	38.77
Compound 695	6.76
Compound 696	4.47
Compound 697	<3.00
Compound 698	<3.00
Compound 713	15.49
Compound 714	3.52
Compound 718	6.91
Compound 719	9.59
Compound 720	3.51
Compound 721	22.34
Compound 722	12.84
Compound 723	18.03
Compound 724	17.08
Compound 725	69.40
Compound 726	<3.00
Compound 728	20.33
Compound 729	27.33
Compound 730	15.66
Compound 731	19.18
Compound 732	29.35
Compound 733	<10.00
Compound 735	18.34
Compound 737	4.24
Compound 738	7.55
Compound 743	14.40
Compound 745	6.12
Compound 746	16.77
Compound 747	11.93
Compound 749	9.05
Compound 750	<3.00

Compound No.	IC50 ( $\mu$ M)
Compound 751	13.11
Compound 752	<3.00
Compound 753	12.36
Compound 754	<3.00
Compound 756	10.33
Compound 757	18.84
Compound 763	11.18
Compound 764	5.92
Compound 765	6.88
Compound 768	10.62
Compound 769	4.44
Compound 770	16.49
Compound 786	1.33
Compound 787	1.69
Compound 788	2.04
Compound 789	1.16
Compound 790	4.32
Compound 791	5.50
Compound 792	1.26
Compound 793	1.41
Compound 794	0.97
Compound 795	1.92
Compound 796	0.35
Compound 797	3.39
Compound 798	3.62
Compound 799	3.72
Compound 800	9.24
Compound 801	4.70
Compound 802	1.20
Compound 803	4.92
Compound 804	1.23
Compound 805	4.76
Compound 806	3.90
Compound 807	<1.00
Compound 808	1.97

Compound No.	IC50 ( $\mu$ M)
Compound 809	5.22
Compound 810	6.68
Compound 811	9.11
Compound 812	5.58
Compound 813	6.25
Compound 814	<3.00
Compound 815	16.74
Compound 816	14.77
Compound 817	36.14
Compound 818	7.38
Compound 819	5.95
Compound 820	17.86
Compound 821	17.86
Compound 822	5.90
Compound 823	6.93
Compound 824	3.22
Compound 825	4.52
Compound 826	4.44
Compound 827	3.50
Compound 828	9.33
Compound 829	3.91
Compound 830	4.81
Compound 831	3.88
Compound 832	4.97
Compound 833	7.89
Compound 834	19.02
Compound 835	6.46
Compound 836	0.77
Compound 837	12.91
Compound 838	<3.00
Compound 839	5.04
Compound 840	6.95
Compound 841	<3.00
Compound 842	3.22
Compound 843	4.19

Compound No.	IC50 ( $\mu$ M)
Compound 844	<3.00
Compound 845	<3.00
Compound 846	<3.00
Compound 847	<3.00
Compound 848	2.20
Compound 849	<3.00
Compound 850	3.10
Compound 851	1.36
Compound 852	<1.00
Compound 853	2.14
Compound 854	1.33
Compound 855	1.75
Compound 856	1.77
Compound 857	1.18
Compound 858	0.46
Compound 859	0.39
Compound 860	0.65
Compound 861	0.52
Compound 862	0.35
Compound 863	1.22
Compound 864	0.74
Compound 865	1.49
Compound 866	1.92
Compound 867	2.24
Compound 868	<0.30
Compound 869	6.68
Compound 870	0.53
Compound 871	1.00
Compound 872	<3.00
Compound 873	0.66
Compound 874	<0.30
Compound 875	5.20
Compound 876	<3.00
Compound 877	<0.30
Compound 878	<0.30
Compound 879	3.72
Compound 880	0.08

Compound No.	IC50 ( $\mu$ M)
Compound 881	0.18
Compound 882	0.33
Compound 883	0.04
Compound 884	0.95
Compound 885	1.24
Compound 886	0.81
Compound 887	1.75
Compound 888	2.55
Compound 889	0.33
Compound 890	3.91
Compound 891	1.47
Compound 892	14.84
Compound 893	<0.30
Compound 894	0.50
Compound 895	<0.30
Compound 896	<0.30
Compound 897	<0.30
Compound 898	<0.30
Compound 899	<1.00
Compound 900	<1.00
Compound 901	<1.00
Compound 902	<1.00
Compound 903	<1.00
Compound 904	1.71
Compound 905	1.18
Compound 906	1.83
Compound 907	6.75
Compound 908	13.16
Compound 909	1.02
Compound 910	7.81
Compound 911	<1.00
Compound 912	1.04
Compound 913	1.65
Compound 914	1.75
Compound 915	8.15
Compound 916	5.22
Compound 917	1.25

Compound No.	IC50 ( $\mu$ M)
Compound 918	1.55
Compound 919	0.31
Compound 920	<1.00
Compound 921	1.22
Compound 922	2.89
Compound 923	18.79
Compound 924	40.16
Compound 925	25.50
Compound 926	<1.00
Compound 927	<1.00
Compound 928	<1.00
Compound 929	<1.00
Compound 935	0.17
Compound 936	5.59
Compound 937	137.00
Compound 938	1.41
Compound 939	<3.00
Compound 940	30.63
Compound 941	8.72
Compound 942	0.20
Compound 943	10.58
Compound 944	12.04
Compound 945	19.38
Compound 947	30.19
Compound 948	11.62
Compound 950	9.08
Compound 952	19.24
Compound 954	60.51
Compound 956	29.85
Compound 958	<1.00
Compound 959	<1.00
Compound 960	1.12
Compound 961	<1.00
Compound 962	<1.00
Compound 963	<1.00
Compound 965	27.22
Compound 966	16.04



Compound No.	IC50 (μM)
Compound 967	6.57
Compound 969	<3.00
Compound 970	<3.00
Compound 971	<3.00
Compound 972	<3.00
Compound 973	<3.00
Compound 974	12.56
Compound 975	17.36
Compound 976	10.73
Compound 977	10.15
Compound 980	13.80
Compound 981	12.17
Compound 982	8.05
Compound 983	8.31
Compound 984	22.12
Compound 985	<3.00
Compound 986	28.95
Compound 987	<3.00
Compound 988	3.88
Compound 989	<3.00
Compound 990	<3.00
Compound 996	2.66
Compound 997	7.88
Compound 998	16.57
Compound 999	58.16
Compound 1001	<3.00
Compound 1002	2.58
Compound 1003	9.12
Compound 1006	6.31
Compound 1007	0.40
Compound 1008	0.30
Compound 1009	0.10
Compound 1010	0.24
Compound 1011	1.28
Compound 1012	1.89
Compound 1013	8.89
Compound 1015	11.07
Compound 1016	9.23
Compound 1017	0.87

Compound No.	IC50 (μM)
Compound 1018	0.92
Compound 1019	0.41
Compound 1020	0.39
Compound 1021	5.57
Compound 1022	3.23
Compound 1023	0.99
Compound 1024	3.94
Compound 1025	5.71
Compound 1026	3.86
Compound 1027	1.20
Compound 1028	29.07
Compound 1029	34.73
Compound 1030	14.16
Compound 1033	18.66
Compound 1034	17.21
Compound 1035	3.70
Compound 1036	1.50
Compound 1037	38.51
Compound 1038	3.35
Compound 1039	2.76
Compound 1040	52.16
Compound 1041	10.25
Compound 1042	14.74
Compound 1043	8.26
Compound 1044	2.13
Compound 1045	13.11
Compound 1046	<1.00
Compound 1047	<1.00
Compound 1048	<1.00
Compound 1049	<1.00
Compound 1050	1.42
Compound 1051	1.16
Compound 1052	1.33
Compound 1053	<1.00
Compound 1054	<1.00
Compound 1055	1.96
Compound 1056	1.88
Compound 1057	1.26
Compound 1058	1.07

Compound No.	IC50 (μM)
Compound 1059	0.43
Compound 1060	0.44
Compound 1061	1.99
Compound 1062	6.76
Compound 1064	<1.00
Compound 1065	1.21
Compound 1066	2.69
Compound 1067	2.79
Compound 1069	<1.00
Compound 1070	<1.00
Compound 1071	<1.00
Compound 1072	3.88
Compound 1073	20.36
Compound 1074	1.54
Compound 1075	1.34
Compound 1076	2.57

Table 5

Compound No.	Inhibition (%) (300 $\mu$ M)	Compound No.	Inhibition (%) (300 $\mu$ M)
Compound 2	77.30	Compound 526	40.24
Compound 131	32.40	Compound 527	40.94
Compound 230	50.42	Compound 528	58.38
Compound 231	32.76	Compound 529	80.96
Compound 232	44.92	Compound 530	38.16
Compound 233	33.62	Compound 531	35.68
Compound 234	37.88	Compound 532	76.00
Compound 235	47.92	Compound 533	36.87
Compound 236	49.42	Compound 534	43.82
Compound 237	33.12	Compound 535	52.98
Compound 238	30.58	Compound 536	88.25
Compound 239	59.08	Compound 537	82.05
Compound 240	37.92	Compound 538	30.31
Compound 241	46.94	Compound 539	88.39
Compound 242	37.61	Compound 540	38.41
Compound 243	50.17	Compound 541	32.16
Compound 244	30.72	Compound 542	41.11
Compound 245	31.68	Compound 543	30.2
Compound 246	32.62	Compound 544	60.05
Compound 247	34.81	Compound 545	88.81
Compound 248	30.30	Compound 546	85.19
Compound 249	41.59	Compound 547	66.61
Compound 250	37.86	Compound 548	85.72
Compound 251	31.22	Compound 549	85.10
Compound 357	65.82	Compound 550	78.88
Compound 366	69.87	Compound 665	82.34
Compound 471	50.99	Compound 670	70.17
Compound 523	50.09	Compound 674	85.12
Compound 524	42.75	Compound 699	58.35
Compound 525	38.89	Compound 700	40.28

Compound No.	Inhibition (%) (300 $\mu$ M)
Compound 701	53.98
Compound 702	49.17
Compound 703	57.92
Compound 704	46.62
Compound 705	44.68
Compound 706	47.79
Compound 707	41.22
Compound 708	42.04
Compound 709	59.36
Compound 710	83.13
Compound 711	81.04
Compound 712	48.73
Compound 715	84.11
Compound 716	85.77
Compound 717	53.54
Compound 727	67.74
Compound 734	64.91
Compound 736	61.49
Compound 739	58.89
Compound 740	58.55
Compound 741	50.93
Compound 742	77.57
Compound 744	83.71
Compound 748	56.45
Compound 755	67.27
Compound 758	58.21
Compound 759	63.85
Compound 760	73.34
Compound 761	46.24
Compound 762	52.08
Compound 766	81.89
Compound 767	81.83

Compound No.	Inhibition (%) (300 $\mu$ M)
Compound 771	85.12
Compound 772	67.72
Compound 773	53.91
Compound 774	58.85
Compound 775	44.62
Compound 776	49.19
Compound 777	34.17
Compound 778	39.12
Compound 779	51.64
Compound 780	47.74
Compound 781	51.18
Compound 782	86.76
Compound 783	88.84
Compound 784	88.49
Compound 785	39.53
Compound 930	40.20
Compound 931	31.22
Compound 932	36.09
Compound 933	37.62
Compound 934	39.27
Compound 946	45.00
Compound 949	72.60
Compound 951	68.51
Compound 953	67.80
Compound 955	57.67
Compound 957	54.91
Compound 964	67.50
Compound 968	52.70
Compound 978	74.08
Compound 979	73.73
Compound 991	30.11
Compound 992	31.92

Compound No.	Inhibition (%) (300 $\mu$ M)
Compound 993	39.71
Compound 995	42.10
Compound 1000	32.14
Compound 1004	34.20
Compound 1005	59.07
Compound 1014	55.20
Compound 1031	58.77
Compound 1032	39.98
Compound 1077	40.18

Compound No.	Inhibition (%) (100 $\mu$ M)
Compound 1063	63.94
Compound 1068	74.42

Pharmacological Test Example 2: Experiment of sodium-dependent phosphate uptake of rabbit jejunal brush border membrane vesicles

Jejunal epithelium was obtained from New Zealand white male rabbits (7 weeks old, obtained from KITAYAMA LABES Co., Ltd. (Japan)), and brush border membrane vesicles were isolated by the calcium precipitation method described in Kanako Katai et al., J. Biochem. 121, 50-55, 1997, and Pearce, B.E. et al., Biochemistry 26, 4272-4279, 1987. Thereafter, for compound 29 and compound 68, the phosphate uptake inhibitory activity was measured using the same samples with  $^{32}\text{P}$  radioactive phosphorus (manufactured by Daiichi Kagaku Inc. (Japan)) by the rapid filtration method described in Kanako Katai et al., J. Biochem. 121, 50-55, 1997. As a result, these compounds had concentration-dependent inhibitory activity (Fig. 1). Further, in the same experiment, nonspecific inhibitory activity against glucose absorption was determined using  $^{14}\text{C}$ -glucose (manufactured by Moravek Biochemical Inc. (US)). As a result, these compounds did not

have the inhibitory activity (Fig. 2). In both the experiments, a group with the addition of potassium chloride was used as a negative control for nonspecific uptake. All the test results given below were expressed in terms of average value  $\pm$  standard error. Student's t-test was used for a significant test of the control group and the test compound group.

Pharmacological Test Example 3: Experiment of sodium-dependent phosphate uptake of *Xenopus* oocytes which expressed NaPi-2a

cDNA of human NaPi-2a described in Magagnin S. et al., Proc Natl Aca Sci USA, 90 (13): 5979-5983, 1993 was cloned by PCR. In the same manner as in Pharmacological Test Example 1, NaPi-2a was expressed in *Xenopus* oocytes, and the phosphate uptake inhibitory activity was measured with  $^{32}\text{P}$  radioactive phosphorus. As a result, compound 1 had concentration-dependent inhibitory activity against NaPi-2a (Fig. 3). Compound 29 had inhibitory activity against not only NaPi-2b but also NaPi-2a (Fig. 4). In the test, a group with the addition of choline chloride (Choline Cl) was used as a negative control for nonspecific uptake, and PFA (phosphonoformic acid) was used as a positive control for phosphate transport inhibition.

Further, the compounds according to the present invention had inhibitory activity with  $\text{IC}_{50}$  values shown in Table 6.  $\text{IC}_{50}$  values were determined by determining an inhibition curve by an approximation formula using the least square from inhibitory activity values obtained from five concentration levels of the compound and determining the concentration of the compound which exhibits 50% of the maximum inhibitory activity.

Table 6

	IC50 ( $\mu$ M)		IC50 ( $\mu$ M)		IC50 ( $\mu$ M)
Compound 260	<3.00	Compound 794	9.57	Compound 841	19.85
Compound 262	4.42	Compound 795	8.52	Compound 845	<3.00
Compound 264	4.36	Compound 800	10.05	Compound 846	<3.00
Compound 591	4.04	Compound 801	3.72	Compound 858	<1.00
Compound 592	9.51	Compound 802	5.96	Compound 859	1.60
Compound 627	3.53	Compound 806	12.14	Compound 860	<1.00
Compound 628	3.59	Compound 807	9.07	Compound 861	<1.00
Compound 629	12.94	Compound 810	23.81	Compound 862	1.65
Compound 630	3.50	Compound 811	37.22	Compound 863	6.90
Compound 631	2.43	Compound 813	35.59	Compound 864	1.94
Compound 632	28.66	Compound 814	18.34	Compound 865	4.34
Compound 633	13.46	Compound 818	31.43	Compound 878	7.22
Compound 634	16.87	Compound 822	18.01	Compound 880	1.30
Compound 635	1.34	Compound 824	8.19	Compound 881	2.67
Compound 636	5.30	Compound 827	24.37	Compound 882	4.45
Compound 637	0.95	Compound 828	10.02	Compound 883	1.98
Compound 638	4.22	Compound 829	<3.00	Compound 884	35.90
Compound 639	11.15	Compound 830	10.73	Compound 886	2.93
Compound 640	15.59	Compound 831	28.83	Compound 887	15.06
Compound 641	7.53	Compound 832	6.40	Compound 889	1.41
Compound 642	13.30	Compound 833	38.11	Compound 890	1.33
Compound 786	<3.00	Compound 834	52.10	Compound 891	13.86
Compound 787	<3.00	Compound 835	10.98	Compound 893	5.11
Compound 788	6.64	Compound 836	10.18	Compound 894	3.61
Compound 789	9.28	Compound 838	10.17	Compound 895	5.52
Compound 791	6.70	Compound 839	23.15	Compound 896	7.40
Compound 793	8.46	Compound 840	34.06	Compound 899	<1.00

	IC50 (μM)
Compound 900	2.53
Compound 901	<1.00
Compound 902	<1.00
Compound 903	<1.00
Compound 904	1.69
Compound 914	3.13
Compound 935	9.68
Compound 936	30.05
Compound 985	<3.00
Compound 987	16.31
Compound 989	7.84
Compound 990	7.14
Compound 1007	1.00
Compound 1008	2.30
Compound 1009	1.41
Compound 1020	2.25
Compound 1027	1.58

Pharmacological Test Example 4: Inhibitory activity against <sup>32</sup>P absorption from intestinal tract

SD rats (6 to 7 weeks old, obtained from Charles River Japan, Inc. (Japan)) were raised with low-phosphorus diet (phosphorus content 0.1%, manufactured by Oriental Yeast Co., Ltd. (Japan)) for 3 to 4 days and then fasted for about 24 hr for experiment. <sup>32</sup>P was diluted with purified water or liquid feed (CLEA JAPAN INC. (Japan)) to 0.7 to 3.5 MBq/ml and was forcibly orally administered at a dose of 5 ml/kg (administered into the gaster through an oral probe). The compounds or media were forcibly orally administered at a dose of 5 ml/kg (divided dose of twice), 30 min before the administration of <sup>32</sup>P and

simultaneously with the administration of  $^{32}\text{P}$ . Blood was collected from caudal artery 30 min, 45 min, or 60 min after  $^{32}\text{P}$  administration, and blood  $^{32}\text{P}$  radioactivity was measured with a liquid scintillation counter. Inhibition of an increase in blood radioactivity was used as a measure of inhibition of phosphate absorption from the intestinal tract.

The results are expressed in terms of the percentage inhibition determined by the following equation.

(Blood radioactivity for group with the administration of medium – Blood radioactivity for group with the administration of compound)/(Blood radioactivity for group with the administration of medium) x 100

t-Test was used for a significant test of the average value difference of blood radioactivity.

The results are shown in Table 7. As is apparent from the table, the compounds significantly inhibited phosphate absorption from the intestinal tract.

Table 7: Inhibitory activity against  $^{32}\text{P}$  absorption from intestinal tract

Compound	Dose, mg/kg	Blood radioactivity inhibition, %
91	320	28.3
92	160	25.5
88	400	29.1
163	360	57.8
130	270	22.8
157	320	20.7
164	400	55.0
165	400	27.6
252	400	29.2
253	400	39.0
254	400	68.4
315	100	42.4
372	100	63.7
285	80	60.3

For all the compounds, a significant difference was observed as compared with the group with the administration of medium at  $p < 0.05$ .